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## THE CLINICAL RÔLE OF THE FAT-SOLUBLE VITAMIN: ITS RELATION TO RICKETS*


ALFRED F. HESS, M.D.
AND
LESTER J. UNGER, M.D.
NEW YORK


In the last few years, the subject of deficiency diseases has become one of absorbing interest for both the laboratory investigator and the clinician. In order that the advances in this field may proceed on firm ground, it will be necessary that step by step we compare and correlate experimental results with clinical experience. Perhaps the largest amount of work has been carried out on scurvy, both in this country and abroad, and has brought forth results that coincide remarkably for animals and for man. All diets leading to scurvy in the guinea-pig produce scurvy in man; all antiscorbutics are potent for both species; all signs and symptoms of the disease are common in some degree to both guinea-pig and man. There is, however, one important difference, namely, that in man the disorder is a slow, markedly subacute process, whereas in the guinea-pig it is almost an acute disease. This does not mean that this animal is not suitable for the study of scurvy, but merely that it is a hypersensitive reagent, and therefore not well adapted for fine quantitative experiments.

We shall not dwell on scurvy at length, confining out attention rather to so-called deficiency diseases that have been less fully developed. We should like to say a few words in general, however, about antiscorbutic foodstuffs. There is a widespread impression among laymen, hygienists and physicians that the drying of foods or their subjection to high degrees of heat necessarily destroys their antiscorbutic potency. It is important to realize that, although holding good in most instances, these results are not based on a biologic principle, for we are approaching a time when dried foodstuffs probably will be made wide use of. It has been shown by Holst and Froelich, Cohen and Mendel, and others, that under certain conditions vegetables may be dehydrated and retain their antiscorbutic value for months or years. It is likewise true that milk may be dried and yet preserve by far the greater part of this accessory factor. In two cases we were able to cure infants of scurvy by means of milk that had been dried by the Just process, and to protect them as long as they were under observation, for at least three to seven months, by a dietary containing no further antiscorbutic food. It may be added that drying fixes the antiscorbutic principle, bringing it into a more permanent and resistant state, much as it does toxins and antitoxins. For example, milk that has been quickly dried by this method partially withstands subjection to 120 C. for one hour, whereas fluid milk loses practically all antiscorbutic virtue when heated to the same degree.

We shall not pursue this aspect of the subject further, but would point out that a most important factor, and one until recently entirely disregarded, is that of the original content of the foodstuff in antiscorbutic vitamin. Whether we consider vegetables or milk we cannot regard these foods as possessing a standard antiscorbutic value—not even in an approximate sense. It is therefore inexact and misleading, unless this limitation is borne in mind, to frame a table of the relative antiscorbutic content of the various foodstuffs. The milk will vary according to the fodder of the cows and again according to its age, especially if it has been subjected to pasteurization. The vegetables will vary according to their maturity and age previous to being cooked or dehydrated. Therefore, until improved methods are devised, we should endeavor to use young and fresh vegetables for purposes of dehydrating.

### CAUSATION OF RICKETS

An investigation of scurvy naturally led to a consideration of a disorder which, from a clinical standpoint, has always been linked with scurvy. We refer to rickets. This is the most common chronic disorder among infants living in the temperate zone. It occurs more particularly among the poor, but is very common in moderate degree among the infants of the well-to-do. In an infant asylum with which we are connected, more than 90 per cent. of the infants show some degree of rickets. The theories as to its pathogenesis and etiology are manifold. Most of these may be grouped into one of two classes: those which place the onus on poor hygienic surroundings and those which regard the disorder as of dietetic origin. Under defective hygiene is included lack of sunlight, of fresh air and of exercise; the "domestication theory" of von Hansemann, the respiratory poison theory of Kassowitz. The dietary theory includes the fat deficiency, the alimentary intoxication theory, and newest of all, the vitamin deficiency. The last hypothesis was brought forward from a theoretical standpoint by Funk, and more recently has been sustained by Mellanby[1] as the result of experiments on dogs. The latter believes that he has shown that if dogs are deprived of the fat-soluble vitamin


* This work was carried out in part on a fund provided by the New York Foundation.


1. Mellanby, E.: Lancet **1**: 407 (March 15) 1919.

they develop rickets, whether they are allowed at large or kept in confinement. These conclusions of Mellanby have been accepted by Hopkins and Chick in a memorandum drawn up by a committee on accessory food factors appointed jointly by the Medical Research Committee and the Lister Institute.[2] This report considers the fat-soluble factor as synonymous with the antirachitic factor, and even constructs a table of antirachitic foods, arranging them in three different grades. This memorandum was prepared for the guidance of those engaged in the administration of food relief to famine-stricken districts.

This is the status of the etiology of rickets, now, almost 300 years since Glisson's classic description. You will see that there has been no advance, with the possible exception of the introduction of the vitamin hypothesis. The subject of rickets can be well studied on infants, owing to its great prevalence. But to our knowledge there has been no systematic study of a group of infants carried through for a long period. This is due in part to the fact that an investigation of this kind is impossible in the hospital, in the dispensary or in the home, but can be carried out only in an institution where the hygienic and sociological conditions are alike for the entire group, and where all factors are

| Scorbutic Beading | | | | | | Diet |
|---|---|---|---|---|---|---|
| Age (mos.) | Beading | Epiph | Age (mos.) | Beading | Epiph | |
| 2 | ++ | ++ | 6 | ++ | + | C.L.O. (1 gm. daily) |
| 6 | +++ | ++ | 7 | ++ | + | |
| 7 | +± | + | 8 | ± | ± | O.J. added (1 c.c. daily) |
| 9 | + | + | 9 | ± | ± | |

Chart 1.—Scorbutic beading: Two cases (I. M. and I. L.) demonstrating beading of the ribs of scorbutic origin. This sign developed in spite of a dietary that included cod liver oil, and decreased rapidly when orange juice (15 c.c.) was added; ± signifies the least and +++ the maximum degree of beading.

under absolute control. About a year and a half ago we undertook the study of rickets in about 100 infants cared for in a modern child-caring institution. These infants lived under excellent hygienic conditions, their nursing and care was the same, their food was prepared in a central diet kitchen, and they remained in the institution for the entire period of observation. Once a month they were examined for rickets. This included notation as to the size of the fontanel, the beading of the ribs, the enlargement of the epiphyses, the condition of the musculature, the eruption of the teeth, the static development, etc. They were placed on various diets—an abundance of fat and fat-soluble vitamin in the form of milk and cream; a deficiency of these substances, as in skimmed milk; an abundance of water-soluble vitamin as supplied by autolyzed yeast; or diets such as Mellin's Food or condensed milk. In all cases there was but one deficiency in the diet, which was adequate in quantity, that is to say, in its caloric content, and contained in every instance sufficient antiscorbutic foodstuff.

It is realized that a test of this kind should be carried out for a period of years, and that it is, therefore, premature to lay down rigid conclusions as a result of this work. However, after a period of observation of this length, it is possible to draw some conclusions. It is all the more important to discuss this question, as the laboratory results are absolutely at variance with the opinion of most clinical observers, who believe that rickets commonly follows overfeeding. In a study of this kind, what is to be the criterion of rickets? There is no delicate indication of what may be termed latent or subacute rickets, which can be recognized only by metabolism tests. But this mode of approach is handicapped by the fact that such tests generally can be carried out for only short periods, whereas the disorder itself is one of marked chronicity, with irregular periods of advance and of quiescence. Furthermore, they are so laborious as to permit of an investigation of only a small number of cases. After a preliminary study it seemed that beading of the ribs, especially in conjunction with the enlargement of the epiphyses, furnished the most reliable criterion of the course of the disease. We turned, therefore, to an intensive study of beading of the ribs.

It was found that six grades of beading could be distinguished, and these have been designated in the charts by means of plus signs. It may be thought that this empiric method would be very inexact. However, it was found that if the examinations were carried out always by the same person, remarkable uniformity could be obtained. We shall not weary the reader with a detailed discussion as to the clinical varieties of beading of the ribs, but shall report on this question at some other time.[3]

Physicians in general, and pediatricians as well, regard beading of the ribs as a pathognomonic sign of rickets. Some time ago in studying infantile scurvy we noted not only that there was marked beading in connection with this disorder, but also that very often the beading or rosary quickly became less or disappeared when orange juice or other antiscorbutic food was given (Chart 1). In other words, *there is not only rachitic but also scorbutic beading.* This conforms with observations in experimental scurvy. It was pointed out by Jackson and Moore, and has been noted by various other investigators, that beading of the ribs occurs in the course of the experimental scurvy of guinea-pigs. This has been referred to generally as "pseudorachitic" beading. In point of fact, it must be regarded as truly scorbutic, as it shows the various microscopic appearances of scurvy. As we have stated, this sign has its counterpart in infantile scurvy; to a less extent, the same is true of enlargement of the epiphyses. That beading of the ribs may be of scorbutic origin is of interest, from both a clinical and an experimental standpoint. Probably this fact is largely accountable for the confusion that existed between infantile scurvy and rickets, and led to the former being regarded as "acute rickets," previous to the publications of Barlow. It is owing largely to this sign that the diagnosis of rickets has been made so constantly in association with infantile scurvy; the data of the incidence of rickets in scurvy have been based mainly on the occurrence of the rosary. It may have brought some confusion also into the study of experimental rickets. We have encountered similar beading, with slight hemorrhages of the costochondral junctions, in the scurvy of dogs. In the light of this experience it should be

2. Hopkins, F. G., and Chick, H.: Lancet **2**: 28 (July 5) 1919.

3. It may be said in passing that beading may be of various kinds—round or angular, that is to say, more cartilaginous or more osseous. It may be of a chronic nature—"residual"—resembling the enlargement of the epiphyses found in guinea-pigs that have been cured of scurvy. In order to make correct use of this sign it must be thoroughly studied and its modifications appreciated.

noted that three of the four diets that Mellanby made use of in his experiments on rickets in dogs contained no antiscorbutic whatsoever, and that the fourth dietary included only 3 c.c. of orange juice daily, a quota of antiscorbutic food that is insufficient. We do not, however, wish to imply that he was dealing with scurvy rather than with rickets.

Beading of the ribs may also come about as the result of a lack of the water-soluble vitamin. This

| Date. | Wgt. | Font. | Cr-tabes | Teeth. | Rosary | Epiph. | Diet. |
|---|---|---|---|---|---|---|---|
| 6-18 | 5 ½ | | + + | 0 | 0 | 0 | |
| 9-16 | 8 ½ | 2 - 2 | | 0 | 0 | 0 | Milk(1 liter) |
| 11-27 | 10 ¾ | | | 0 | + + + | ± | |
| 12-29 | 10 ¾ | 3 - 3 | | 0 | + + + | 0 | Cereal, O.J.(15c.c) |
| 2-4 | 10 ¾ | | + + | 0 | + + + | ± | |
| 3-2 | 11 ¾ | 3¼-3 | + + | 0 | + + + | ± | |
| 4-1 | 11 ¾ | 4 - 4 | ± | 0 | + + ± | ± | |
| 5-7 | 11 ¾ | 4 - 3 | | 0 | + + ± | 0 | |
| 6-6 | 11 ¾ | 3 - 3 | ± | 0 | + + + | 0 | |
| 7-12 | 11 ¾ | | ± | 0 | + + + | + | Spinach(30gm.) |
| 8-14 | 12 ¾ | 3 - 3 | | 0 | + + + | + | |
| 9-12 | 12 ¾ | | | 0 | + + + | + | C.L.O.(15c c)-Spinach stopped |
| 10-7 | 13 ¾ | 2¾-2¾ | | 0 | + + + | + | |
| 11-4 | 15 ¾ | 2 - 1¾ | ± | 0 | + + | + | |
| 11-25 | 16 ¾ | 2 - 1¾ | ± | 0 | + ± | ± | |
| 12-4 | 17¾ | 2 - 1¾ | | 0 | ± | ± | |

Chart 2.—This infant (J. C.) was admitted when 1 week old and developed marked rickets on diet containing large amount of fat-soluble vitamin (milk and spinach); improvement in rickets and general condition when cod liver oil was gven.

takes place less frequently than in scurvy and far less frequently than in rickets. This sign was noted in infants who were receiving only a small quantity of the water-soluble factor in their dietary, and who later were given considerable amounts of autolyzed yeast. In some of these cases there was an unmistakable sharp decrease in the rosary. It is interesting to note that beading of the ribs has been observed at postmortem examination in cases of infantile beriberi. Andrews[4] writes that among eighteen cases of infantile beriberi, a disorder brought about by a lack of water-soluble vitamin, he encountered three instances of beading of the ribs. He also has stated, in a personal communication, that these were the only instances of rickets that he encountered at necropsy in the Philippines. Probably beading does not occur with greater regularity in the course of infantile beriberi because most of the children die during the first two months of life. It becomes all the more clear that in a study of rickets, whether in infants or in animals, it is essential to have the diet complete, except for the one factor under investigation, and especially that it should contain adequate amounts of the antiscorbutic and of the water-soluble vitamin.

At the outset of our investigation, attention was directed to the influence of hygienic and nondietetic measures on the development of rickets. It was found that rickets can develop notwithstanding an abundance of fresh air. It occurred in the larger and in the smaller rooms of the institution, and developed in infants at the tuberculosis preventorium, an institution in the country where particular attention is paid to outdoor treatment. It was found likewise that a liberal allowance of light could not prevent the development of this disorder. Infants in glass cubicles were not spared more than those in the regular wards. With this question in mind, in the spring of 1917 five children were given daily treatments of violet ray, the mercury vapor quartz lamp being used for this purpose. Their entire bodies were exposed for twenty minutes, so that they soon became brown, as if well tanned by the sun. This therapy, which was carried out with regularity for three months in infants about 1 year of age, did not lead to a definite improvement in the rickets, nor did it benefit their general condition. Violet ray treatment cannot be considered the equivalent of heliotherapy. But the fact that rickets is exceptional in the arctic region, where there is a lack of sunlight for the greater part of the year, is a strong argument against its predominant influence.

4. Andrews, V. L.: Philippine J. Sc. **7**: 67, Sec. B, 1912.

### INFLUENCE OF FAT-SOLUBLE VITAMIN

As we have stated, discussion as to the etiology of rickets centers at present about the fat-soluble vitamin. We shall therefore direct our attention to this aspect of the subject. This vitamin, as is well known, has been shown by McCollum and his co-workers, and by Osborne and Mendel, and others, to be present in abundance in animal fats—such as cream, butter and eggs—as well as in the leafy vegetables, but to be absent or almost absent in the vegetable oils. As far as has been demonstrated, it cannot be synthesized by the animal body.

In order to provide an adequate amount of this important dietetic factor, we placed a number of infants, during the first months of their lives, on large amounts of milk, in some instances giving cream in addition. By this means, if fat-soluble vitamin is the controlling influence, the development of rickets should have been prevented. In some cases, with this dietary, which it will be remembered included also orange juice, a very mild degree of rickets was observed, but in others marked signs developed. For example:

CASE 1.—J. C., a baby admitted when 1 week old, without rickets, was given daily when 3 months old a quart of milk containing fully 3 per cent. of fat. By the middle of November when he was 5 months old, he had developed marked

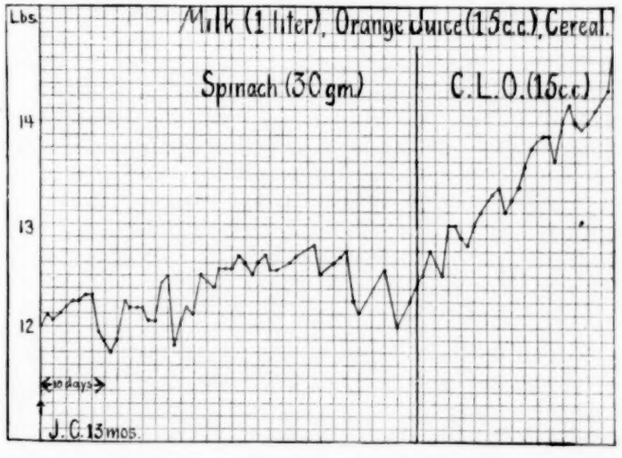


Chart 3.—Weight curve of case of marked rickets shown in Chart 2 (J. C.); inability of large amounts of milk and spinach to produce gain in weight; marked increase on addition of cod liver oil.

rickets. His general condition had improved during these months, he having gained 2 pounds in weight. Rickets persisted for ten months, in spite of this large amount of milk, and until cod liver oil was given in October (Charts 2 and 3).

Consider a case such as the following:

CASE 2.—A well nourished baby, aged 2 months, was given a formula containing 24 ounces of milk; it received also orange juice and later some wheat cereal. Rickets developed

on this diet with all the typical signs. In the fall, when it was 10 months old, the rickets diminished without change of diet.

Rickets has developed in several instances on 24 ounces daily of protein milk (containing about 2.5 per cent. of fat) and even in nursing infants, whose mothers were on a diet that included a large quota of milk, butter and vegetables.

It is difficult to bring these observations into harmony with the hypothesis of a lack of fat-soluble vitamin. It may be suggested that the occurrence of rickets in these cases was due to a lack of absorption or utilization of the vitamin. This cannot be definitely gainsaid; analogy, however, does not support this explanation. We know, for instance, that however large the intake of raw milk may be in scurvy or in beriberi, a cure will result; in fact, the alleviation of symptoms may be stated to be in direct ratio to the milk consumption. It should be understood also that these babies at no time had symptoms of indigestion — vomiting or diarrhea. It may be argued that the content of fat-soluble vitamin in the milk was small, owing to a deficiency of this factor in the fodder of the cows.[5] This suggestion is attractive, as it has been noted not only by clinicians, but likewise by pathologists, that cases of rickets are most numerous in the spring months and decrease in number and severity in the fall. This phenomenon, brought out sharply by Vogel and by Kassowitz, should be strongly emphasized; indeed, any explanation of the etiology of rickets, in order to be convincing, must explain the striking seasonal variations. This peculiar incidence stood out in relief in the course of the monthly physical examinations, as they proceeded from the spring to the fall. Without any change in the diet the rickets decreased in September or October. In view of this fact, animal experiments should be so planned that those of a curative nature bring about the cure in the spring, whereas those which are provocative should lead to the development of the disorder in the fall. We are willing to admit that milk must be different when secreted by cows on pasture than when the fodder contains almost no greenstuff. This does not, however, indicate that this change brings about the cure of rickets, and least of all that it is the fat-soluble vitamin that deserves the credit. It does not account for the large number of babies receiving an abundance of milk who develop rickets, while others taking a far less quantity of the same milk remain almost normal; nor for the cases, by no means infrequent, of well nourished breast-fed babies who develop the disease, in spite of the fact that the diet of the mother contains a large amount of the fat-soluble factor.

| Mo. | S.M. | R.S. | E.L. | M.S. | C.M. |
|---|---|---|---|---|---|
| 1 | ± | +± | ± | ± | + |
| 2 | +± | + | | ± | |
| 3 | ++± | ± | + | + | +± |
| 4 | + | + | + | ± | +± |
| 5 | + | + | + | ± | + |
| 6 | ++ | + | + | ± | +± |
| 7 | ++ | + | | 0 | +± |
| 8 | + | + | ± | 0 | +± |
| 9 | ± | ± | ± | (Home) | ± |
| 10 | 0 | ± | ± | | ± |
| 11 | ± | + | ± | | ± |

Chart 4.—These five infants received a diet that was complete in every particular except for the fat-soluble vitamin. It consisted of highly skimmed milk (Krystalak, 0.2 per cent.; fat, 180 gm.); sucrose, 30 gm.; cottonseed oil, 30 c.c.; autolyzed yeast, from 15 to 30 c.c.; orange juice, 15 c.c., and cereal. The monthly examinations of beading of the ribs represented by the plus signs below the heavy line refer to the period of fat-soluble vitamin deficiency; ± signifies the least degree of beading, and +++ the maximum. These cases show that beading decreased rather than increased in spite of this deficiency.

### RESULTS OF TEST DIET

But let us approach the question from the other side. Do infants who receive very little fat-soluble vitamin in their diets become rachitic? In order to answer this question, five infants were put on a dietary that was complete in every respect except for a lack of this principle. The dietary was composed of 180 gm. of Krystalak, a commercial preparation of highly skimmed milk which, when diluted tenfold with water, has a fat content of less than 0.2 per cent. In its preparation the milk is first heated in a vacuum to 130 F. for fifty minutes and then dried by the Just process at a temperature of 212 F. for twenty seconds. This milk was sweetened with 30 gm. of sucrose. Fifteen c.c. of orange juice were added to supply the antiscorbutic vitamin, 30 c.c. of autolyzed yeast to furnish water-soluble vitamin, 30 c.c. of cottonseed oil to provide fat, and wheat cereal (cream of wheat) when the age of the infant required this addition. The babies were from 4 to 9 months of age, and somewhat below the average in physical development. They should have developed rickets if a lack of fat-soluble vitamin is the essential cause of this disorder. They have been on this diet for periods varying from five to nine months, have been weighed daily and examined frequently, and show no greater signs of rickets than the average baby in the institution—merely such minor manifestations as are rarely lacking (Charts 4 and 5). This result shows that this vitamin is not the much sought for antirachitic factor; that it cannot bear the same direct relationship to this disorder as do other vitamins to their specific diseases—we refer to scurvy and to beriberi. Even if rickets is in some degree influenced by a fat-soluble vitamin deficiency, there are more important and dominating factors that determine whether or not the disorder shall come to pass.

| Mo. | S.M. | R.S. | E.L. | M.S. | C.M. |
|---|---|---|---|---|---|
| 1 | 0 | + | ± | 0 | 0 |
| 2 | 0 | ± | | 0 | |
| 3 | ± | + | ± | 0 | ± |
| 4 | 0 | + | ± | ± | ± |
| 5 | 0 | + | + | ± | ± |
| 6 | 0 | + | + | 0 | ± |
| 7 | 0 | + | | 0 | ± |
| 8 | 0 | + | ± | ± | ± |
| 9 | 0 | + | ± | (Home) | ± |
| 10 | 0 | + | ± | | ± |
| 11 | 0 | + | ± | | ± |

Chart 5.—Epiphyses: The same five patients as in Chart 4, receiving minimal fat-soluble vitamin and illustrating enlargement of the epiphyses instead of beading of ribs. These cases show that according to this sign rickets did not develop on a lack of fat-soluble vitamin.

This test diet (minimal fat-soluble vitamin) is of interest from a point of view quite apart from rickets. As is well known, experiments carried out by Osborne and Mendel and by McCollum have shown that if rats receive no fat-soluble vitamin in their diet, they cease to grow and develop a disease of the eyes, termed xerophthalmia. A similar eye disease was reported some years ago in Japan by Mori,[6] and more recently by Bloch[7] of Copenhagen, as the result of a diet of skimmed milk

5. The subsidence of rickets depending on the nature of the fodder of the cows could be construed as follows: The cows are sent out to pasture about the middle of May. At first some of the vitamin goes to make up for the deficiency of their tissues in these factors, resulting from the stall-feeding throughout the winter. Somewhat later the vitamins are secreted to a large extent into the milk. We must furthermore allow two or three months for the subsidence of the rachitic signs for the improvement to become evident clinically. Reasoning thus, we account for the four month period—from the middle of May to the middle of September—the long interval between the time of the change to green fodder and its effect on the nutrition of the baby.

6. Mori, M.: Jahrb. f. Kinderh. **59**: 175, 1904.
7. Bloch, C.: Ugesk. f. Læger **79**: 309, 1917.

and a deprivation of milk fat. These laboratory and clinical reports have caused physicians and hygienists to take alarm and to utter vague warnings of the great danger that lurks in a diet deficient in fat-soluble vitamin. Very recently it has been suggested[8] that

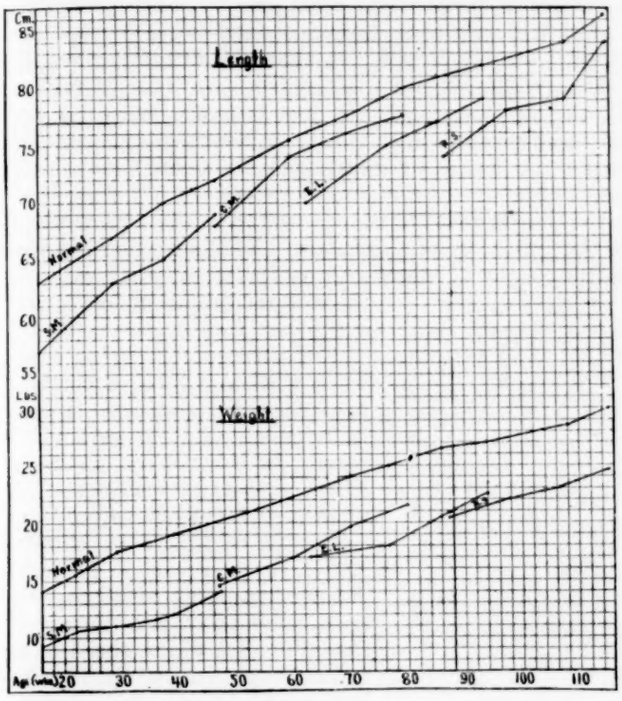


Chart 6.—Growth (minimal fat-soluble vitamin): Gain in length and weight (compared to the normal) of infants on the diet deficient in fat-soluble vitamin. This dietary led to no definite retardation.

many children may fail to grow normally because of an insufficient amount of this vitamin, which, compared to the water-soluble vitamin, is distributed so sparingly among the natural foodstuffs.

In view of these experiences and opinions, our infants were watched and examined with the greatest of care, and it will be well to report their condition in some detail. Their general appearance is decidedly good. One, about 2 years of age, who has been on the diet for the longest period, is up and about and has excellent color. The hemoglobin of the group averages between 80 and 90 per cent., and the red blood cells about 4,000,000 per cubic millimeter of blood. Their pulse, respiration and electrical reactions are normal. Roentgenograms of the heart show no changes, and of the bones shown no signs at the epiphyses resembling the lesions characteristic of rickets or of scurvy. Their growth in length has been normal, and their growth in weight slightly below the normal (Chart 6). In one case in which the gain had been slow, a larger amount of wheat cereal (cream of wheat) was given to note whether a food lacking in fat-soluble vitamin could bring about a gain. As will be seen in Chart 7, this addition of carbohydrate resulted in a prompt and definite rise in the weight curve. We may summarize our results by the statement that the only abnormal condition observed has been a mild retardation in gain in weight. How are these conclusions to be brought into harmony with the experimental and clinical results of others? It should be understood that this experience is not comparable to the feeding tests carried out on rats, for in these animals fat-soluble vitamin has been entirely excluded from the food. Our dietary was devised from the standpoint of rendering the deficiency no more stringent than might occur under clinical conditions. In this respect it may be compared to diets we encounter in cases of infantile scurvy, which are never completely devoid of the antiscorbutic factor. It is quite possible, furthermore, that the rat is more sensitive to this deficiency disease than is man, just as man is far more sensitive than the rat to a lack of antiscorbutic vitamin.

8. Pub. 59, U. S. Children's Bureau.

### CLINICAL REPORTS FROM JAPAN AND DENMARK

But let us turn to the clinical reports from Japan[6] and from Denmark[7] to see whether we can harmonize or correlate our results. The former tells us that the disorder occurred in the summer time in conjunction with diarrhea; that it rarely occurs in children under 1 year or in those over 15 years of age, and that the diet consisted of "rice, barley, cereals, beans and other vegetables." These vegetables are not specifically mentioned. The cure was remarkably prompt when cod liver oil was given, in some cases marked improvement being observed in half a day, results resembling the cures of beriberi in man or polyneuritis in pigeons. Further details are not given as to the quantity or the exact ingredients of the diet, of the length of time it was taken, nor as to whether any other change was made when the cod liver oil was given. Olive oil was ineffective. The data are so fragmentary that it is almost impossible to express an opinion on this report. Much would depend on the kind of vegetables that were eaten whether legumes or of the leafy variety. It seems very probable that the caloric content of the food was insufficient, and that it was lacking in an adequate supply of protein.

The Danish report is much fuller and gives us an account of forty-nine cases of eye trouble that occurred in Copenhagen from 1912 to the end of 1916. This publication of Bloch's, which is in the Danish language, has been cited so frequently to show the danger to

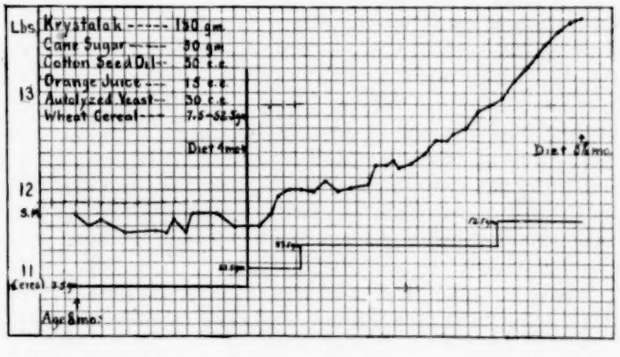


Chart 7.—Minimal fat-soluble diet: weight curve of one of the patients on a fat-soluble deficiency diet; evidence that gain can be brought about by adding cereal to the dietary without increasing the amount of fat-soluble vitamin; lack of gain therefore not due to the want of this growth factor.

infants of a deficiency of fat-soluble vitamin that it deserves careful reading and analysis. The infants were pale, flabby and very thin, with dry, scaly and shriveled skin. Of the forty-nine infants, twenty were between 6 and 12 months of age, fifteen from 2 to 6 months of age, and fourteen over 1 year. They suffered from what Bloch terms "psychic hyperesthesia," and would scream and twist and turn, and wanted to be let alone. The malnutrition was extreme in many

cases; for example, one baby of 9 months weighed 9 pounds, one of a year weighed 13½ pounds, another aged 2 years weighed 14 pounds. Their diet consisted of an indefinite amount of skimmed milk that had been pasteurized and cooked again in the home. Oatmeal gruel and barley soup constituted an important part of their dietary; one case is mentioned in which the baby had received nothing except oatmeal gruel and sugar. In no case were vegetables given, and in only one instance fruit juice, and then for only three days. A cure was obtained by means of cod liver oil, but in almost every instance breast milk or raw cow's milk was given in addition. It is very probable that some of this malnutrition was due to a lack of fat-soluble vitamin; it seems, however, equally true that other deficiencies played a more important rôle. These infants were partially starved and also received an insufficient allowance of antiscorbutic vitamin in the doubly heated milk. Scurvy is mentioned in only one instance, but in many others it must have been latent or subacute. It is therefore impossible to evaluate this report; it cannot, however, be used to illustrate the danger of fat-soluble vitamin deficiency. Animal experiments designed to elucidate this question would not be accepted if devised and carried out in this manner. What is true of this report will hold good of many of the nutritional experiences derived in the course of the war. The pictures are unavoidably confused and composite, rendering it most difficult to deduce valuable lessons from them. In most cases partial starvation is a basic factor, and infection plays a rôle. For example, the cases of scurvy reported from Austria—with large and numerous subcutaneous hemorrhages—resemble melena or purpura rather than true and uncomplicated scurvy. Similar conditions may occur in peace times. We have recently seen a group of infants who were suffering from a combination of deficiency diseases brought about by an insufficient caloric content of the food and a lack of antiscorbutic as well as of fat-soluble vitamin.

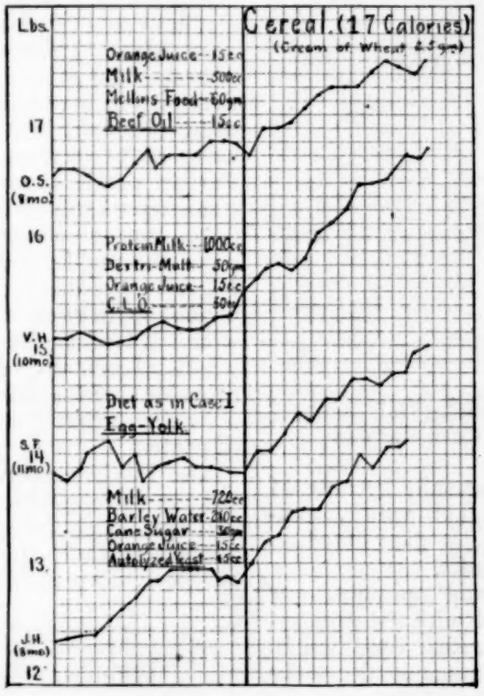


Chart 8.—Effect of cereal (cream of wheat, 2.5 gm., 17 calories) added to diet: four patients who had reached a stationary phase in weight; gains were brought about by small additions of cereal to a diet that was adequate in caloric content. The first three diets were unusually rich in fat-soluble and the fourth in water-soluble vitamin (autolyzed yeast). In the last case (J. H.) 4 gm. of dried cereal, equivalent to 28 calories of food, were added.

### COMMENT

Our experience leads us to believe that except under exceptional circumstances—as in time of war—the danger to the infant and to the child from a deficiency of the fat-soluble factor is one not to cause great apprehension. It is true that this principle is by no means so widely distributed in nature as the water-soluble vitamin, but, on the other hand, infants seem able to thrive for long periods on very limited quantities, provided the diet is otherwise complete. The great danger arises from diets composed merely of cereal and water or perhaps an insufficient amount of buttermilk or skimmed milk.[9] It is probably true that a catastrophe will result if the incomplete diet is maintained for years, or even sooner in a susceptible individual, as is well known to be the case in scurvy or in beriberi. In formulating dietaries for infants and children, therefore, this food factor should be borne in mind and be regarded as an essential constituent.

There is a growing danger of attributing every unexplained growth impulse to the new, attractive but ill-defined vitamins—of their sharing with the secretions of the endocrine glands the fate of becoming the dumping-ground for every unidentified factor. It should be borne in mind that there are other little understood factors and food reactions. One of these is the peculiar and almost specific rôle that cereal plays in the nutrition of the infant. This phenomenon has been of especial interest to us for some time, and well illustrates the complexity of nutritional problems.

Not infrequently infants receiving diets which, according to accepted standards, should be adequate, fail to gain until cereal is given in addition. These babies usually are 6 months or more of age, and receive milk mixtures that should suffice to bring about growth. As the result of such experience, physicians add cereal to the milk diet when there is a failure to gain about the second half year of life. In order to obtain more precise information in regard to this interesting phenomenon, for which there is no satisfactory explanation, we studied a number of infants who had reached this stationary phase. It was found that in cases in which even cod liver oil no longer caused a gain, and in which egg yolk and beef drippings had failed, a small amount of wheat cereal (cream of wheat) brought about a decided increase (Chart 8). This result occurred whether the previous diet had been rich in fats, as just instanced, or contained a carbohydrate such as Mellin's Food (maltose and dextrin, Chart 8). In one instance, when large amounts of autolyzed yeast failed to stimulate growth, the wheat cereal was effective (Chart 8.) Another, a breast-fed baby aged 8 months which had not gained for three weeks, increased 6 ounces as soon as a small amount of cereal was given in addition to the nursings. These gains could not be due to an addition of any of the recognized vitamins, as diets rich in the antiscorbutic, water-soluble and fat-soluble factors were nevertheless enhanced in value by the cereal addition. Nor could it be the result of a simple caloric increase in food, for

9. A favorite food for very young and premature infants is buttermilk or the "Holländische Säuglingsnahrung," which consists of buttermilk (with a fat content about the same as that of skimmed milk), sugar and flour. Babies may thrive on this food, deficient in fat, from birth until the second half year of life.

the amount added was comparatively insignificant. Cooked cereal equivalent to only 2 or 3 gm. of the dry cereal frequently led to a gain of 2 or 3 ounces by the following day. These babies were receiving a high caloric diet. In one instance a quart of protein milk and 30 c.c. of cod liver oil were given, representing about 120 calories per kilogram of body weight (Chart 8). The simplest and most direct explanation of this reaction is that this carbohydrate brings about a more complete oxidation and thereby a better utilization of the food. However this may be, it illustrates the point that not everything which induces growth—and which does not conform to accepted standards—is a vitamin.[10]

## CONCLUSIONS

It would lead too far afield to discuss the various theories that have been advanced to account for the occurrence of rickets, and, moreover, it would not be profitable at the present time, as the data are inadequate. There seem to be several causes at work, rendering the unraveling of the problem so difficult that there is a difference of opinion not only as to the particular dietary factor that is at fault, but even as to whether rickets is to be considered a disorder of dietetic origin. It should not be lost sight of that there is a prenatal factor involved. The fact that the negro infant, living side by side with the white in the larger cities and obtaining milk from the same source, develops rickets so frequently and so markedly, indicates that there are important influences to be reckoned with in addition to the food.

In considering the diet a most important question is whether the recent theory as to the vitamin origin of this disorder can be maintained and, more particularly, whether rickets should be attributed to a lack of the fat-soluble factor. We can obtain the clearest understanding of this aspect by comparing this disease to the well recognized and established deficiency diseases, scurvy and beriberi. What does the comparison show? In the first place, these two disorders are commonly accompanied by weakness and malnutrition; we do not encounter the strong, apparently healthy babies met in rickets. But of far greater moment is the fact that neither can be brought about by overfeeding. Rickets, as emphasized in the body of this paper, frequently develops in infants receiving too much milk rich in fat, protein and salts. It seems impossible to bring this fact into consonance with a deficiency disease, whatever may be its nature, using this term in the commonly accepted sense. Our study shows that the fat-soluble vitamin is not the controlling influence; that infants develop rickets while receiving a full amount of this principle, and that they do not manifest signs, although deprived of this vitamin for many months, at the most vulnerable period of their life. It is impossible to interpret the contrary conclusion which Mellanby came to as the result of his pioneer experiments on dogs, or to accept the term "fat-soluble vitamin" as synonymous with "antirachitic factor," as Hopkins and Chick would have us do. Clinical tests carried out with care must be accorded fully as much weight as laboratory investigations. The two methods of approach should be carried out side by side, and even the most thorough study on animals must be made to harmonize before it can be accepted as holding good for man.

Finally, this work seems to show that the danger to infants of a diet deficient in fat-soluble vitamin is slight, provided it includes sufficient calories, and otherwise is complete. They can maintain their health and vigor despite amounts of fat-soluble vitamin so small as rarely to be encountered in times of peace. In spite of the fact, therefore, that this vitamin is not widely distributed in nature, a disorder that may be termed "fat-soluble deficiency"—marasmus or xerophthalmia—is hardly to be apprehended from a clinical standpoint.

16 West Eighty-Sixth Street—162 West Eighty-Fifth Street.

10. This phenomenon is similar to that reported from Hopkins' laboratory by Winfield (Report 116, Local Government Board, 1918, p. 147). It was found that rats failed to grow on a milk diet when they were one-half to two-thirds full grown, and that "the addition of fresh milk alone produced no acceleration of growth." "With a diet of bread and milk, growth recommenced." Ferric ammonium citrate and a preparation of hemoglobin were added without result.

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# A CAMPAIGN AGAINST VENEREAL DISEASE IN THE ARMY OF OCCUPATION

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In the campaign against venereal disease, many measures which seem to give promise of good results are never tried on account of their impracticable nature in ordinary communities. During the occupation of a part of Germany by the United States Army, opportunity was given to test some of these measures, owing to the facts: first, that there were none of the ordinary legal obstacles now in the way; and second, that the army authorities were so deeply interested in keeping the venereal rate at a minimum that every facility for the work was made available.

This paper deals only with the means used and the results obtained in the Third Division during the first four months of the occupation.

During the summer of 1918, the Third Division had been almost constantly in action, making a splendid record for itself. Incidentally, an extremely low veneral rate had been maintained, as can be seen by reference to Table 1; and although it was felt that lack of exposure had had something to do with it, every one in the division was anxious to maintain the high standard in Germany.

The division started its march toward the Rhine from the vicinity of Bar-le-Duc on or about Nov. 16, 1918. From then until December 17, the troops were almost continuously on the move, and opportunities for exposure to venereal disease were almost as limited as during the period of battle. Division headquarters remained at Remich, Luxembourg, on the Moselle River, for several days just before December 1, and at this time, acting as division urologist, I submitted the following memorandum, which was an effort to foresee conditions as they would be after the occupying troops had settled down in their assigned areas:

> The prostitution problem divides itself into two parts: (*a*) registered, and (*b*) clandestine prostitutes. From the police in Germany the names and addresses of all registered prostitutes can be obtained. They and the clandestines can be considered as operating: (1) on the streets; (2) in cafés, theaters and dance halls, and (3) in brothels. In order to cope with the situation, a definite policy must be laid down and followed. Should there be no army order on the subject, such a policy could with advantage be determined by a division order. The registered women are at once available. Shall they be interned, deported, or allowed to operate in

brothels which are placed out of bounds? The last alternative has the objection that it always leads to abuses and evasions. The clandestines must be met by regulating the streets, cafés, theaters and dance halls. For the streets, rules similar to those in force at Bordeaux, forbidding soldiers and officers to appear in the company of women, might be enforced. Dance halls may be closed or put out of bounds. Theaters may be closed, put out of bounds or allowed to operate under supervision provided no women are permitted to loiter about in them. Cafés may be put out of bounds. In German cafés the waiters are usually women, these usually clandestine prostitutes.

The venereal problem in Germany will be one of the utmost importance for the welfare of the soldiers and the reputation of the Army. Stringent measures will be necessary to maintain the extremely low venereal rate of the A. E. F. A definite policy, clearly outlined and enforced from the beginning, will be of great assistance in the solving of the problem.

A third army order on the subject was not issued, so each division proceeded to solve its own problem along the lines already laid down by general headquarters after the recommendations of the senior consultant in urology, which had proved so successful in France.[1] This program was as applicable in Germany as in France, although certain conditions peculiar to the occupied area required decision, some of which made possible more effective measures than had been practicable in Allied territory. This being the case, it is remarkable to note how in each division, practically identical methods were arrived at sooner or later. Third Division headquarters were established at Andernach-am-Rhein, Kreis Mayen, Dec. 16, 1918. The area assigned to the division coincided almost exactly with the Kreis Mayen. This "Kreis" had a population variously estimated at from 50,000 to 80,000 people. There were two larger towns, Mayen, of about 10,000, and Andernach, of about 9,000 inhabitants, and approximately twenty-five small villages, all occupied nearly or quite to the limit, by the division troops. The men were practically all billeted in the houses of the inhabitants and other suitable buildings. In the dwellings, sufficient space for the family was set aside, and the rest of the house was occupied by soldiers. This, of course, brought the soldiers and Germans into close, and at times intimate contact.

The Kreis Mayen occupies an area in the Coblenz plain, facing the Rhine River, including principally the valley of the Nette River, and a good deal of high mountainous country around the Laacher See. It also extends far enough to the southeast to touch the Moselle River for some distance. In Andernach and Mayen are a number of factories, such as food canneries, iron works and breweries. Between these towns, on the volcanic strata emanating originally from the Laacher See volcano, are numerous establishments for the manufacture of cement, together with large quarries to supply the stone for these cement factories as well as for other purposes. The remainder of the Kreis is given over to agriculture, with a number of vineyards along the Moselle. Railways connect Andernach and Mayen, Mayen and Coblenz, Mayen and Munstermaifeld, and Mayen and the territory to the southwest. The main Coblenz-Cologne line runs along the Rhine border of the Kreis, and the main Coblenz-Treves line along the Moselle border.

From this short résumé it will be seen that the problem concerned a community about half agricultural and half industrial, with two moderate sized towns, good railway connections, and lying from 15 to 25 kilometers from the city of Coblenz.

From the German officials it was learned that there were no registered prostitutes or recognized houses of prostitution in the Kreis. Amusement places were few and small, and the cafés also small and unpretentious, but numerous. During the war, many of the factories had been transformed for the manufacture of munitions. This had brought many girls to the towns to work in these factories, and had given them contact with the soldiers comprising the garrisons, and those working in the supply departments of the army. From German sources it was learned that while the district had been very free from venereal disease before and during the early stages of the war, the conditions described had brought about a notable increase during its last two years.

It will be noted that all of the prostitution to be combated was of the clandestine type. For this reason, none of the measures usual in the American Expeditionary Forces against houses of prostitution and segregated districts could be applied. The other parts of the program, however, were carried out as vigorously as possible. Prophylactic stations were established at every point occupied by soldiers. Prophylactic instruction at frequent intervals was insisted on, and line officers as well as medical officers took part in it. This included the customary admonition that continence was desirable from every point of view, statements of the nature and results of venereal disease, and a reminder that prophylaxis was insisted on to protect the innocent, not to encourage the guilty. Biweekly examinations for veneral disease were carefully made, the medical officers using complete company rosters and checking off by name so that no one escaped. The sale of liquor was forbidden except between 5 and 7 p. m. Fraternization with Germans of either sex had been forbidden. The welfare organizations had comprehensive plans for the amusement of the men; but time was required to put them in operation. Meanwhile, a heavy drilling schedule kept the men busy during most of the few hours of daylight there were at that time of the year. Aside from closing one dance hall at Andernach, nothing further could be done except to await developments.

For nearly four weeks no case of venereal disease contracted in the occupied area came to light. Then a few cases were reported (Table 1). Questioning of

TABLE 1.—RATE PER THOUSAND PER YEAR FOR THE DIVISIONS

| Week | Total Cases | Cases Contracted in Area |
|---|---|---|
| Dec. 17, 1918 | 10.7 | 0.0 |
| Dec. 24, 1918 | 10.7 | 0.0 |
| Dec. 29, 1918 | 10.67 | 0.0 |
| Jan. 5, 1919 | 22.88 | 0.0 |
| Jan. 12, 1919 | 9.88 | 5.5 |
| Jan. 19, 1919 | 15.6 | 6.9 |
| Jan. 26, 1919 | 3.92 | 3.92 |
| Feb. 5, 1919 | 2.9 | 2.9 |
| Feb. 12, 1919 | 15.3 | 11.2 |
| Feb. 19, 1919 | 9.5 | 5.8 |
| Feb. 26, 1919 | 13.13 | 9.88 |
| March 5, 1919 | 11.86 | 3.95 |
| March 12, 1919 | 28.2 | 14.1 |
| March 19, 1919 | 21.52 | 9.75 |
| March 26, 1919 | 7.87 | 1.98 |
| April 2, 1919 | 9.83 | 1.97 |
| April 9, 1919 | 0.0 | 0.0 |

Average strength about 28,000.

1. Bull 54, General Headquarters, A. E. F. Young, H. H.: Preventive Medicine as Applied to Venereal and Skin Diseases, J. A. M. A. 73: 1668 (Nov. 29) 1919.

the infected soldiers and the activities of the military police and intelligence sections provided evidence against several women as being sources of infection. These women were apprehended and turned over to the German authorities for internment and treatment for a period of three months. A general policy for dealing with venereal disease was soon developed. It is desired to emphasize the fact that this policy was modeled after that used in handling other infectious diseases, and was based on the principle of quarantine. Infected women were to be isolated by the Germans,

TABLE 2.—STATISTICS FROM DEC. 16, 1918, TO APRIL 1, 1919

| | |
|---|---|
| New cases | 101 |
| Gonorrhea | 69 |
| Chancre or chancroid | 32 |
| Chronic cases treated in hospital | 67 |
| Gonorrhea | 38 |
| Syphilis | 29 |
| Chronic syphilitics treated as outpatients | 57 |
| Number of women confined at present | 37 |
| Number of women paroled | 6* |
| Number of women sent to Kloster Maria Trost | 3 |
| Number of women sentence suspended | 6 |
| Number of women acquitted | 2 |
| Number of women escaped | 1 |
| Total number dealt with | 52 |

* Several more women were paroled during the week of April 1 to 8, 1919.

and infected men were to be isolated by the American authorities until declared cured, according to the best criteria available. Details of the hospital treatment of infected soldiers will be given later. The Germans had no adequate system tending to regulate prostitution. The towns were too small to attract the registered prostitutes or have a morals police. Provision was made for the treatment in hospitals at public expense of women afflicted with venereal disease; but very few had availed themselves of this privilege. Women known to be prostitutes were required by law to report to the burgomaster once a week, but no effort was made to control them, and this measure was a "dead letter."

All of the hospitals in the occupied area were being utilized to a greater or less extent by the Army authorities, and therefore no treatment center was available for the women. The German authorities, who showed no inclination to cooperate, and no interest in the fate of these unfortunate women, were content to place them, for the period of their confinement, in the ordinary jails. No medical treatment was provided, although some of the women were in the secondary stage of syphilis; and they were crowded in the jails. As soon as this state of affairs was discovered, medical treatment was ordered, and supplied. This was done ungraciously, and in Andernach had to be hastened by the trial and punishment of the burgomaster. The Germans were also informed that better accommodations must be found. A certain amount of space was found to be still available in some of the hospitals; but this was insufficient for handling the increasing number of women. Through the hearty cooperation of the commanding general, the chief of staff and the division surgeon, steps were taken to evacuate completely a German hospital at Niedermendig, then occupied by American troops. Wooden barracks were built to accommodate these men. As soon as this was accomplished, the confinement and treatment of all women apprehended was carried out at this center under the direction of a competent local physician. The costs in each case were borne by the village or town from which the woman came, according to a ruling of the landrat. General supervision was maintained by the American authorities, with whom rested the final decision as to noninfectiousness, and also the decision as to the parole of favorable cases.

The work of trying and ordering the confinement of infected women who had transmitted disease to or consorted with American soldiers was done by the inferior provost courts of the various localities. A clean cut case was required, and hearsay evidence, especially from German sources, was ruled out. It was found possible to apprehend over 50 per cent. of the women infecting soldiers, besides those taken in extemporized brothels, or elsewhere. All cases were reported at once to the division urologist and to the superior provost judge of the division. By frequent visits to the treatment center, it was possible to follow each case, and deal with it on its merits. In gonorrhea, three successive negative examinations constituted the criterion of noninfectiousness. In syphilis, patients were kept, even after the disappearance of lesions, until a thorough course of neoarsphenamin had been completed. When pronounced noninfectious, it was the general policy to parole all women who seemed to show an inclination to mend their ways. Others were held until the end of the period for which they were ordered confined, when, if still infectious, they were recommitted. Although well treated, well fed and well clothed in the hospital, all displayed the greatest anxiety to avoid a second sojourn there. Arrangements were made to confine in a German convent at Coblenz any incorrigible prostitutes who showed no evidence of disease. Only four cases fell in this class, and one woman succeeded in escaping and leaving the area before she was sent to the convent. One patient with disease, from a well-to-do family, was allowed to go to a hospital in a distant city for treatment, on her father's undertaking to be responsible for her safekeeping. All the other patients were treated at the treatment center, and it was not necessary during my service in Germany to apprehend a woman the second time.

The Germans were indifferent, or even hostile, to this program. The prevalent ideas were quite medieval, and it was generally considered that a policy of public persecution would be preferable. They were indignant because the Americans required the treatment of these women in the best hospitals, and because the regular hospital diet and good treatment for them were insisted on. Many of the women, however, responded in a very gratifying way to this good treatment, and to the efforts made to bear out the statement that we were trying to help them lead a respectable existence in the future. There was also evidence to show that the fact that all cases were rigorously followed up served as an effective deterrent, many German girls avoiding the American soldiers altogether.

This policy, supported by the hearty cooperation of all concerned, enabled women of all classes to be apprehended. They included semiprostitutes, such as café waitresses and the inmates of hastily organized brothels, factory girls, shop girls, and women and girls living at home. A large majority were found to come from the industrial, rather than from the agricultural, sections. It provided prompt treatment for all, and, it is hoped, reformatory influence for some of these unfortunate women. It made possible the extermina-

tion of all extemporized houses of prostitution through the prompt internment of all the inmates. It may have served as an object lesson to the German population in what we think are more modern, more rational and more effective methods of dealing with prostitution and venereal disease.

All soldiers found with acute venereal disease, or chronic venereal disease in an infectious form, were sent at once from their units to a field hospital, established in suitable German buildings, where they were treated in the venereal ward without pass privileges. Standard methods of treatment were used. Cases with severe complications and all cases of fresh chancre had to be evacuated farther back. Three successive negative examinations of fluid expressed by prostatic massage constituted the criterion of noninfectiousness in gonorrhea. The men were all tried by court-martial, according to army regulations, and any confinement given as punishment had to be undergone after they had left the hospital. In this ward also neo-arsphenamin treatment of all old chronic (noninfectious) syphilitics who could be discovered in the division was carried out.

The results of this campaign have to be estimated from the figures in the accompanying tables. Beginning in February, 1919, numbers of men went away, principally to France, on leave, and from these men came a considerable proportion of the cases of venereal disease. The only part of the campaign affecting this incidence was the prophylactic instruction. A large proportion of the men contracting disease on leave had failed to take prophylaxis for various reasons. Instruction was pushed very hard when this fact became known, printed posters being used freely to assist it. From the first half of March on, cases contracted on leave showed a gradual diminution throughout the Third Army, including the Third Division. In the occupied area, the number of cases contracted each week showed, after reaching its peak, a decline to a low figure. The total figures for the Third Army are lower than any ever previously reported elsewhere. It is not going too far to assign this good result to the energetic efforts made in the campaign which has been here described.

The effectiveness of the campaign is not ascribed to any one of the measures comprised in it. Throughout the American Expeditionary Forces it was shown that the problem was most effectively handled when every avenue of attack was utilized. Indeed, it seemed that each measure had a synergistic effect on the others used simultaneously with it; no doubt this was due to a conscious or subconscious effect on the mind of the individual soldier, who found an effort of the authorities, whenever he turned, to amuse and occupy him, to instruct him, to prevent his reaching prostitutes, to provide prophylaxis, to give him the best treatment in case all else failed to keep him from being infected, and to punish him for this infraction of discipline and public spirit. Every soldier, even the dullest, must have become aware at some time of the far-reaching schemes to take him home clean. It is at present impossible that such a campaign of quarantine could be made in a peace time community. Having been prosecuted, however, under such unusual conditions, its methods and results may well be of interest from a standpoint of social hygiene, since they show what can be accomplished when all elements of the problem are under control.

## AORTITIS SYPHILITICA

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An editorial in a recent number of THE JOURNAL gives the impression that the diagnosis of aortitis is something very recent, and in practice rests on the development of subjective symptoms and the use of the roentgen ray and the Wassermann reaction. The following statement is made[1]: "It seems highly probable that in the aorta, just as in the central nervous system, definite lesions may be present without any symptoms whatever, and it would seem that some method of diagnosing syphilitic aortitis during the presymptomatic period must be devised." Such a statement comes as a great surprise to clinicians whose professional career extends over the past three decades.

The diagnostic signs of aortitis were clearly described long before the roentgen ray or the Wassermann reaction or the spirochete was known to the medical profession. Physicians who knew and built on the work of Huchard[2] must certainly share in the writer's surprise over the statement that the "presymptomatic period of aortitis is still wanting a method of diagnosis." If inaccurate percussion and palpation and auscultation are employed, then of course the roentgen ray affords the only dependable diagnostic method; but in the hands of an examiner who in a routine manner estimates the size and elasticity of the ascending aorta, just as the character of the arterial pulse is studied, the presymptomatic period of aortitis is diagnosed with fully as much accuracy as can be procured by aid of the roentgen ray and Wassermann reaction. Fortunately for the recognition of early aortitis, the ascending or first portion of the arch shares in the process in fully 95 per cent. of the cases, and in the majority of cases the pathologic changes are confined to this portion of the arch. This discussion of the subject will be limited to the first or ascending portion of the arch.

If only the ascending arch is diseased, without accompanying mediastinitis or encroachment on the lumen of a coronary artery, the patient's capacity for exercise will not be impaired, there will be no subjective symptoms of any kind, and the volume of the pulse, the pulse pressure, and the characters of the anacrotus and catacrotus will be normal. What is vaguely described in the editorial as "so-called pulsatory plethora, namely, a marked pulsation of the peripheral vessels," implies a very advanced and extensive lesion of the aorta. Such symptoms are the capillary pulse, large pulse pressure, celerity in the catacrotus, and pistol-shot tone in the femoral artery. These cases were described by several writers years ago as cases of "pseudo-aortic insufficiency." There was nothing "pseudo" about it; they were cases of genuine insufficiency of the aorta, but not insufficiency of the aortic valve. The large pulse pressure and capillary pulse were simply evidences of the ventricle compensating for a loss of elasticity in the aortic tube; hence the systolic blush in the capillaries and relatively low minimum diastolic pressure, for which the heightened systolic pressure compensated. The pistol-shot tone was due to the sudden arrest of an exaggerated excursion of the arterial wall. The so-called "pulsatory plethora" was evidence of a severe and extensive lesion of the aorta.

1. Syphilitic Aortitis, editorial, J. A. M. A. **73**: 1615 (Nov. 22) 1919.
2. Huchard: Maladies du cœur et des vaisseaux, Paris, 1889.

The important case, from the standpoint of a practicing physician, is the early one with slight or no subjective symptoms on the part of the patient. It is the lesion of the ascending aorta, that part of the aorta which is very accessible and susceptible to very accurate criticism so far as its size and elasticity are concerned. Such are the early cases of syphilitic aortitis, which respond well to treatment and for this reason should be recognized by the examining physician. If the diagnosis is not made until "pulsating plethora," angina from functional ischemia of the myocardium, and the broad silhouette from the roentgen ray constitute the diagnostic evidences, then the therapeutic opportunity is lost.

Elastic, fibrous and muscular tissues form the wall of the aorta. The smooth muscle fiber is, however, the constituent which enables the aortic wall to withstand intra-aortic pressure. When the muscle fiber deteriorates, the aortic tube is elongated and dilated. This increment in size need be very little to give unequivocal evidences to physical examination. On one occasion the pulsating aorta was clearly visible and palpable 4 cm. to the right of the sternum. The necropsy revealed that the entire ascending arch of the aorta had a uniform circumference of 11 cm., which means a diameter of 3.5 cm.—less than the distance to which the aorta extended to the right of the sternum. The projection of the aorta against the anterior thoracic wall to the right of the sternum was due more to its elongation than to its dilatation. It is elongation of the ascending arch and not dilatation which renders the aorta so readily accessible after slight pathologic changes.

### ELONGATION AND DILATATION

Now, what physical signs will elongation of the ascending arch of the aorta give? The visibility of the aorta to the right of the sternum depends not only on elongation and dilatation of the aorta, but on the size of the thoracic cage and volume of the lung. With a given size of aorta, the patient with a chest of large anteroposterior diameter will afford less evidence of the enlargement of the aorta to the right of the sternum than will the patient who has a chest cavity of small anteroposterior diameter. As a rule, by the time the aortic pulsation is visible to the right of the sternum, one is dealing with a severe aortic disease, which requires no particular skill in diagnosis and offers little prospect for improvement with the employment of therapy. It is very important that slight degrees of enlargement of the aorta should be detected by the physician, because it is only in the early stages that therapeutic results are satisfactory.

Percussion for aortic dulness to the right of the sternum should be done by the direct palpating method. If one employs mediate percussion in this vicinity, the sternum and neighboring ribs are included in the pleximeter. If percussion is to be of a definitive character, and the examiner is to define accurately the limits of a resistant body behind the thoracic wall, then the method of percussion must be one which will employ the smallest possible pleximéter area, and this is best accomplished by employing direct percussion with the extended finger. As a matter of routine, the examiner should percuss the intercostal spaces to right and left of the sternum, beginning at the first intercostal space on the right and continuing downward to the fifth, and percussing downward from the first intercostal space on the left until precordial resistance is encountered, which is usually on the third rib. If the aortic arch projects beyond the sternum at the second interspace, then the examiner will perceive increased resistance and diminished resonance in the second interspace to the right as compared with the second interspace to the left of the sternum; and comparisons should also be made between the resistance and resonance of the first, second and third interspaces to the right of the sternum. If this method of percussing is employed, the examiner will find that the projection of the aorta on the anterior thoracic wall, as determined by percussion, will not be inferior to the projection of the silhouette of the aorta as seen by the roentgen ray, and under some conditions the information gained by percussion is more dependable.

### SYSTOLIC PULSATION OF THE ARCH

An increase in pulsatory expansion of the aorta during systole may be detected by palpating bimanually. The examiner places his right hand over the second interspace at the right of the sternum, and his left in the interscapular space at the left of the vertebrae. This method of palpation does not employ the tactile sense or vibratory sense of the palpating hand, but the muscular sense of the thoracoscapular muscles. But the muscular sense of the muscles which lead from the head to the neck and shoulders is much more delicate than the muscular sense of the thoracoscapular muscles, and for this reason I find it a very distinct advantage also to apply the ear over the second interspace to the right of the sternum. An expansile pulsation is very often perceived by this direct method of auscultation when by employing the hands the pulsation escapes detection. So if there is any reason to suspect an enlargement of the ascending or transverse or descending arch of the aorta, it is a good practice to auscult with the ear directly applied to the chest; and coincidently with the audible sound the examiner will often perceive over the aortic area during systole an anteroposterior expansion which will be imperceptible to the palpating hands.

Further evidence of enlargement of the ascending arch of the aorta is accentuation of the aortic second sound and the palpable diastolic impact perceptible at the second interspace to the right of the sternum. Accentuation of the aortic second sound depends purely on accessibility of the aortic tube due to its proximity to the anterior thoracic wall. Accentuation or increase in the intensity of the aortic diastolic sound does not depend on intra-aortic pressure. High aortic pressures do not give an accentuated aortic second sound unless there is increased accessibility of the aortic tube on account of elongation and dilatation of the aorta. When accentuation of the aortic second sound accompanies high aortic pressure, the accentuation is due to disease of the aorta and not to high pressure. If the first portion of the arch is elongated and dilated, the systolic pressure may be elevated or normal, but in either case we shall have accentuation of the aortic second sound in the second interspace to the right of the sternum. This accentuation means just one thing—increased accessibility of the first portion of the arch of the aorta.

We have very good contributory proof of this fact when there is traction of a normal aorta toward the right side due to retraction of the upper right lobe of the lung from chronic disease, as in fibroid phthisis. Under these conditions the aorta is displaced to the right by the receding right lobe, and the retraction of the upper right lobe of the lung also uncovers the arch

of the aorta. Under such circumstances, with a normal aorta and normal blood pressure, the aortic second sound will be greatly accentuated, and the accentuated sound may have exactly the same character as is frequently found in aortitis of the ascending arch.

### PALPABILITY OF DIASTOLIC IMPACT

A palpable diastolic impact over the second interspace to the right of the sternum is perceptible in the adult only when there is increased accessibility of the arch. The diastolic impact is due to the arrest of a body in motion, and the body in motion is the column of blood within the aortic tube arrested by the closure of the aortic valve. This impact is transmitted as a vibration along the aortic wall to the examining hand.

The diastolic impact, I have observed, is best perceived by the part of the hand where vibratory sense is most acute, and that is over the end of the metacarpal bones. If one will apply a vibrating tuning fork over the finger tips and then over the ends of the metacarpal bones, it will be observed that the perception of vibration is much more acute over the ends of the metacarpals. One detects a diastolic impact through a sensory percept, which has been named pallesthesia, and it is very clearly differentiated from tactile sense and muscular sense. Correct palpation is very important. If the examiner will place himself at the right side of the patient and palpate the second interspace to the right of the sternum with the ends of the metacarpals, asking the patient to expire so as to render the aorta as accessible as possible, it will be found that only very slight dilatation of the arch of the aorta is required to make a diastolic impact clearly perceptible to the palpating hand.

### LOSS OF ELASTICITY

Elasticity of the arch of the aorta greatly economizes the work of the heart in maintaining the minute volume flow of blood. Were the aorta not elastic, then the pulse would outlast the systole of the ventricle, for the duration of the pulse beyond the end of ventricular systole is due purely to aortic contraction. Should the aorta lose its elasticity, to compensate for the short duration of the pulse we should have a maximum systolic rise both in volume and in pressure, and a consequent lowering of the minimum diastolic pressure; but this modification of the pulse occurs only when the elasticity of the entire aorta is impaired, or at least when a very large portion of the aorta is involved. These are the severe cases which in former years were discussed in medical literature as pseudo-aortic insufficiency.

In this discussion I am dealing solely with elongation and dilatation of the first portion of the arch of the aorta, and that may be seriously diseased without modification of the pulse pressure or the duration of the arterial pulse. There is no physical sign ascribable to a loss of elasticity of the first portion of the arch of the aorta unless the root of the aorta is involved; and when the aortic ring and the first portion of the arch are diseased, the diastolic sound takes on a tympanitic quality. Now, an aortic second sound may be decidedly tympanitic and not accentuated, and this will occur when the root of the aorta is sclerosed and the aorta is not elongated and dilated. On the other hand, it is very common to find an accentuated second sound which is not tympanitic; and this will occur when the root of the aorta is not sclerotic, but when the remaining portion of the ascending arch is elongated and dilated. I have been able to confirm both these statements by pathologic examinations. Furthermore, the tympanitic quality of the diastolic sound is not at all dependent on the height of the aortic pressure. On one occasion I had a patient under observation who was subject to periods of arterial hypertonus. For about three days in the week the man would have a maximum systolic pressure of 350, and then there would follow an interim of three or four days in which the maximum systolic pressure would be only 150. The only way in which one could detect the rise in arterial pressure was by palpating the femoral artery and using the blood pressure apparatus. This patient had no enlargement of his heart and no enlargement of his aorta. During the periods of high blood pressure, the aortic second sound was not palpable, and the increase in its intensity was very slight and certainly would have escaped observation had I not been making comparative observations on the intensity and duration of sound during periods of hypertonus and interims of normal pressure. Furthermore, the aortic second sound during the periods of high blood pressure had not the least suggestion of a tympanitic quality.

### MURMURS

A murmur during the cardiac systole is audible over the second interspace at the right of the sternum when the ascending arch of the aorta is dilated, and also when there is stenosis of the orifice without dilatation of the arch of the aorta. The mechanism of production of this murmur is identical in both instances. The murmur is produced by eddies in the blood stream due to the passage of a column of fluid from a vessel of smaller to one of a larger lumen. Stenosis at the orifice and dilatation of the aorta directly beyond the orifice supply these conditions. But there are other factors besides relative stenosis which are necessary for the production of a murmur. The murmur will depend not only on change in the lumen of the tube, but also on the conformation of the tube where transition occurs from a smaller to a larger lumen. When the change is very abrupt, as seen in instances of a rigid valve projecting like a diaphragm into an aortic lumen, the murmur will be very loud, and so may it be quite loud when there is an abrupt dilatation of the aorta beyond the orifice. But suppose the aortic ring is normal, the root is not dilated, and there is a moderate fusiform enlargement of the ascending arch as it joins the transverse arch; then there will be no systolic murmur because this conformation does not give sufficient velocity to the eddies within the stream which are responsible for audible sounds commonly described as murmurs. Should there be fusiform enlargement or the ascending arch of the aorta as it joins the transverse arch, one should be able to percuss an area of dulness to the right of the sternum, one should palpate a systolic impulse when the ear is applied to the thoracic wall, and one should palpate a diastolic impact and hear an accentuation of the aortic second sound; but the aortic second sound will not be tympanitic in quality, and one may hear no murmur during cardiac systole. Should the ascending arch and the root of the aorta be sclerosed but the valves remain competent, then there would be present the physical conditions essential for the production of a systolic murmur and a tympanitic aortic second sound; but the intensity of the sound and the palpability of the diastolic impact and the systolic impulse would all depend on the dilatation of the arch of the aorta beyond its origin.

### DISEASE OF THE CORONARY ARTERIES

Diagnosis of disease of the coronary arteries is not made by direct examination, but inferentially, by the history one is able to procure from the patient. When the coronary arteries are involved in syphilitic patients, they commonly give a history of progressive functional ischemia, and, of course, the cases which do not respond to treatment may go on to nutritive ischemia with all its consequences—infarcts and myomalacia cordis. Early in the patient's coronary history he finds he has lost the ability to perform vigorous exercise, and gradually his exercise will be cut down, so that moderate walking on level ground will be sufficient to bring on myocardial pain. In the early stages of syphilitic disease of the coronary artery, when therapeutic measures are of value, the diagnosis of coronary disease is based on a patient's history and his ability to exercise and not on any direct physical findings.

### MEDIASTINITIS

Syphilitic mediastinitis is a common accompaniment of syphilitic disease of the aortic wall. Substernal pain, inclusion of the laryngeal nerve, paroxysmal tachypnea, and pain on swallowing have all been observed. The only direct physical sign of syphilitic mediastinitis, quite apart from functional disturbances, is the location of a friction sound audible at the second interspace to the right of the sternum. In the few instances which have come under my observation, the friction was audible during cardiac diastole and followed the aortic diastolic sound. Disease of the coronary arteries and mediastinitis may occur when the disease of the aorta is not severe, and, in fact, when the aorta shows no evidences of modification in size or elasticity; and under these conditions, of course, the diagnosis is based on the impairment in function.

The diagnosis of aortitis based on physical findings, as described above, is very frequently made before the patient complains of symptoms which can in any way be ascribed to the heart or aorta. The therapeutic importance of making the diagnosis early is due to the fact that, if the physical signs are recognized soon enough, the use of adequate mercuric therapy will cause all of them to disappear. I have seen all the physical signs described above as traceable to enlargement of the arch of the aorta and to impaired elasticity disappear entirely under vigorous antisyphilitic therapy. When the disease has progressed to aneurysmal dilatation, or to the point at which diagnostic skill is no longer required to make the diagnosis, then therapeutic endeavors are in vain, so far as restoration of function is concerned, though it seems very probable that the progress of the disease may be arrested and the patient's life greatly prolonged when restoration to functional and anatomic integrity is no longer expected. Recovery from the evidence of sclerosis of the first portion of the arch of the aorta occurs only when the diagnosis is made quite early in the disease.

Contrary to the import of the editorial comment cited,[1] the medical profession does recognize its moral responsibility in making an early diagnosis of syphilitic aortitis. The early recognition of the lesion is due to the work of Fournier and Huchard, and is based on physical examination. It is very doubtful if men who followed the work of these great Frenchmen found themselves making the diagnosis of incipient syphilitic aortitis with any greater frequency after the roentgen ray and Wassermann reaction were added to our diagnostic resources than was the case prior to introduction of these diagnostic aids. The Wassermann reaction, *Spirochaeta pallida*, and the roentgen ray have all served to confirm and illuminate the work of these great clinicians, but bacteriology and pathology lagged many years behind the clinic in dealing cogently with syphilitic aortitis.

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## THE LABORATORY PROFESSOR AND THE MEDICAL SCIENCES IN THE UNITED STATES

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In a recent number of THE JOURNAL, Professor Symmers[1] combined a discussion of the defects in the teaching of pathology, and the deficiencies of the "lay professor." The first portion of the article was devoted largely to the difficulties in obtaining pathologic material. In conclusion, however, the front was shifted and a still wider problem in medical education was briefly touched on. Dr. Symmers has, I believe, placed two eggs of quite different variety in the same nest. Neither may hatch a bird of beautiful plumage, yet there is little relationship between the two except that they were to be incubated by the heat of a single discussion. Doubtless the subjects are worthy of treatment apart.

I shall not ask the reader's indulgence on the subject of pathologic material for teaching, although ten years' experience in collecting anatomic material in the varying control of New York City leads one to feel that it would not be difficult to warm up to a sparkling degree on such a theme. My attention shall be limited entirely to the problems and conditions underlying the question of the "lay professor."

It should be understood that what I present is intended not solely as a reply to Dr. Symmers' brief treatment of this matter, but as an expansion or broader consideration of a condition which is of grave importance to medical education in the United States. The consideration should be as nearly unbiased as possible, since it is a question not of the welfare of individuals, but one of medical instruction and progress in a great country during a season of most rapid changes and developments.

There are objections to the expression "lay professor" since, in spite of its being apparently clever, it is not actually clear. It immediately introduces partizanship and prejudice into a case which in the end must stand on its merits alone. Judging from Professor Symmers' text, he would put outside of the profession anyone who had not followed the routine road of the medical curriculum in order to enter that branch of the profession to which he intended devoting his life's effort. This is in spite of the fact that the men of scientific education in the laboratories have often spent more time in their preliminary training, which always necessitates the completion of the college course, and in obtaining their doctorate, than the medical student need do. The time element is not of great importance; but men so trained would under Dr. Symmers' classification still be outside in spite of the value

1. Symmers, Douglas: Defects in the Teaching of Pathology, and the Lay Professor, J. A. M. A. **73**: 1651 (Nov. 29) 1919.

of their contributions to medical progress and practice. The profession would be limited to those having the legal status to practice it. To appreciate the full meaning of such a classification, may we look briefly at the recent medical past.

### CONTRIBUTORS TO MEDICAL SCIENCE

A figure at once towers above all the rest, the son of a French tanner, a chemist by education and training, the father of bacteriology, the discoverer of the effective method of combating infectious diseases, he who disproved the idea of spontaneous generation, and laid the scientific basis for Lord Lister's aseptic surgery: Could anyone have so little regard for the history of medicine as not to include Louis Pasteur, the trained chemist, among the great leaders of the profession?

The phagocytic action of wandering cells in the animal body was discovered by a zoologist as a result of his earlier studies on the lowest invertebrates. When a young man he left his professorship of zoology at the University of St. Petersburg and spent his life in the Institut Pasteur constantly investigating the reactions of the organism to disease. Certainly few could deny that medicine is proud to claim the numerous contributions of that devoted investigator, Eli Metchnikoff.

Every medical man looks with pride on the record of the young zoologist who first stained and demonstrated the spirochete of syphilis after others had sought for years in vain. The investigations of the same man on the ameba of dysentery, and his final courage in sacrificing himself in order to facilitate such investigations when he was little more than 35, make all students of disease salute so noble a student as Fritz Schaudinn. A long list of other scientific men, without a medical degree, in Europe as well as is our own country, could readily be mentioned who have contributed most important discoveries as aids to diagnosis and the control of disease.

On the other hand, many of the great discoveries in medicine, as well as in pure science, have come from the medical men themselves, Harvey, Huxley, Haeckel, Ehrlich, and in our own country, Smith, Gorgas, Russell and others. But practical medicine, as well as other applied sciences, can ill afford to separate itself from the indispensable aid which the pure scientists in the laboratories have to supply. The primary thing to be kept in mind is, that when the laboratory man is a master in his field it matters not what his training may have been, whether medical or otherwise; he fully values and appreciates the bearing of his science in all its applications. As Pasteur stated it, "There is no greater charm for the investigator than to make new discoveries; but his pleasure is heightened when he sees that they have a direct application to practical life." Huxley estimated that the money value of Pasteur's discoveries on anthrax alone saved the world in sheep and oxen enough to cover the whole cost of the war indemnity paid by France to Germany in 1870.

In order to appreciate more fully what any applied science may expect to receive from the laity, we might look still further back in medical history. Out of the long record of materia medica there have come two so-called specific drugs for the treatment of disease. One of these, quinin, was discovered by savage laymen, the Indians of South America, while the exact credit for the discovery of mercury in the treatment of syphilis is difficult to place, but belongs to the profession. The race for the discovery of specific treatments after about 2,000 years of medical practice ends in a tie between the Indians of South America and the physicians of Europe.

Among the long used drugs of vegetable origin, valuable in the relief of disease, the laity had in their possession digitalis, nux vomica, opium and many more. Modern medicine is further aided in the use of many of these substances on account of the fact that their active constituents have been separated by the "lay" chemist in concentrated form.

One of the earliest and most important steps toward putting medicine on a scientific basis took place about 150 years ago when the celebrated Englishman, Jenner, then a young man not yet in the medical school and without a medical degree, was told by a Gloucestershire milkmaid that one could not have the disease smallpox after having had cowpox. Jenner found this opinion to be commonly held by the people of the county, and told a number of physicians about it. None of them at that time were interested in such knowledge. While Jenner was studying in London he lived two years in the house of John Hunter, and communicated to him this peculiar relationship between cowpox and smallpox; but Hunter was also apparently not interested, being absorbed in his own work. Jenner, however, was born with the creative temperament. He was a musician, wrote poetry, and was a keenly observing naturalist as shown by his studies of the hibernation of the hedgehog, and the habits of the cuckoo. The last study was communicated to the Royal Society. With true scientific inclinations he returned to Gloucestershire after having studied in London and began the first experimental work on immunity. The actual discovery was made by the milkmaids of Gloucestershire, but its meaning was appreciated by the young apprentice, Jenner, years before Dr. Jenner devised the method of vaccination which made it unnecessary to lead the person to the cow. And thus the history of medicine progresses, until today it is the proud recipient on which is bestowed electricity, the roentgen ray, radium, etc.

Two kinds of minds are valuable or really indispensable to medicine: one the discoverer, and it matters not who or where he may be; the other, the one who comprehends the significance of things. The latter is often rarer than the former; many knew what the milkmaids said about smallpox, but only Jenner appreciated its value; and in so doing he became one of the landmarks in the progress of civilization.

A subject becomes scientific when it has advanced to a stage at which its study depends on exact experiment. Physics and chemistry long ago arrived at this point, and biology has been developing on such a basis for more than thirty years. These are the fundamental sciences on which medicine must progress. They have already supplied a splendid foundation. Much of it was built by the professional physicist, chemist and biologist; the practitioner of medicine in many cases has comprehended the worth of the discovery and devised the technic by which it was applied to the treatment of disease. Has either party to the contract actually suffered from the shortcomings of the other? Should the two be divorced, or are either to be considered "lay" by the other? Only one answer is possible: Does the trained engineer teach the fundamentals of physics and chemistry to the engineering student or does the physicist and chemist? The latter; and with elementary scientific knowledge the young engineer builds with a better understanding of forces and materials.

## PROGRESS OF MEDICAL EDUCATION IN THE UNITED STATES

With this fragmentary review of the parts played by extrinsic elements in the general growth of medicine, we may proceed to a consideration of the development of medical education in the United States which has led to the present conditions in American medical colleges. And finally an attempt will be made to suggest methods for the future improvement of the situation.

As late as the seventh and eighth decades of the last century it might be said almost without exaggeration that there were no actual working laboratories in the medical colleges of this country. There were only the smallest number of medical men devoting their time and talent to investigations in the fundamental medical sciences. In Europe, on the contrary, there were valuable investigations under way in almost every country, and the medical courses were in many universities already well arranged on an orderly scientific basis. One need only recall the purely scientific work being done by Huxley and other medical men in England.

In France, Pasteur was influencing the medical profession, and in Germany and Austria there were chemists, morphologists, physiologists and pathologists of historical prominence. While in this country there was no professional anatomist, zoology was just being born as a result of the arrival at Harvard of the Swiss naturalist, Louis Agassiz. Physiology was soon to begin on the return of young Bowditch from studies abroad. Chemistry in the medical college was taught by lectures and exhibits, or was included in the course of materia medica. Embryology was unknown to American medical men, who had not appreciated the simple necessity of understanding how the machine is built in order best to repair it. The essential apparatus for the study of histology was thought to be unnecessary extravagance, and pathology in its effort to arise labored under similar handicaps. The dissection of the human body was attempted on material either in a state of decay or mummified by medieval methods of embalming. This was of little consequence, however, since the actual knowledge of the subject was always to be harvested from that perpetual source of supply, Gray's textbook.

These and many other primitive conditions obtained when our fathers, and actually when some of us, wandered through that garden of knowledge then known as the medical curriculum. My own sire regrets the distinction of having obtained the degree of Doctor of Medicine from the University of Virginia after a single year's effort. Experiencing, however, a slight sense of hesitation in applying his knowledge to healing the sick, he came to New York and attended what many at that time considered the leading medical school of the country. After another year at the feet of pedantic preceptors he was again honored with the diploma of Doctor of Medicine. Such an experience even at that date was uniquely American. Another of my paternal relatives traveled to Vienna in order to obtain work in pathology which was then almost unobtainable in any form in this country. Many men of these schools are occasionally heard to criticize the modern course, since it does not begin at once by introducing the student to the clinic as in their day. They forget momentarily that in those good days there was little alternative to a start in the clinic.

After 1890, conditions took a decided turn and a rapid improvement began, due, in some degree at least, to the influence of a number of men who had studied abroad and become acquainted with the vastly superior state of affairs in the medical schools of Europe. Interest was at once developed in the fundamental medical sciences, and the necessity of greater knowledge and longer training was realized as qualifications for a successful career in the battle with disease.

The advance in scientific medicine based on the discoveries of vaccines and antitoxins made a better education of the physician not only necessary for the intelligent application of such treatments, but really essential for any one aspiring to add to the knowledge or discovery of similar remedies. Preventive medicine was born, but refused to grow in size, or develop in power, on nourishment other than studious effort and thoroughly scientific understanding.

This state of affairs came as a shock to many physicians and surgeons who had up to this late time combined with apparent success a daily practice of their profession with a professorship of anatomy, physiology or pathology. A few boasted of having filled one after another of these chairs on the road to their ultimate ambition, the professorship of medicine or surgery. Others taught a cluster of subjects—anatomy, physiology, etc.—and as Oliver Wendell Holmes expressed it, "he occupied not a chair at Harvard but a settee."

It now became evident, with some persuasion from the outside in certain instances, that the fundamental sciences on which medicine was to live and advance must be properly included and taught in the curriculum. *Where were the teachers and investigators in these sciences to come from?* The medical men of the country graduating before 1890 had not in all cases been sufficiently trained in the medical sciences to qualify them to teach and work in these subjects. At the same time, many prominent physicians and surgeons could not afford to sacrifice their professional practice. *The simple fact was that there were but few men trained in the medical schools available for these laboratory positions.* When one contemplates the schools of that time, how could there have been many such men? And this was the day that the call went out from the medical colleges to the universities of America for a supply of professional chemists, physiologists and morphologists to train the medical student in the sciences which must underlie the modern prevention and cure of disease.

Many men had been trained in the pure science departments of the universities, and as a matter of information, some of these had gone for their education to the universities solely on account of the fact that laboratory training was not then to be had in the medical schools. Many of these men with natural interests and inclinations toward the medical sciences responded to this opportunity to work in the medical colleges. They did not intrude themselves or come into these positions because there were no others to be had, but were invited, and entered solely through preference for the work and their interest in medical science. I know instances of chemists, physiologists and morphologists having had invitations which gave them the opportunity to choose between professorships in the universities or the medical college, with the salary equally short in both cases, but they chose the medical college. I know other examples of laboratory professors in medical schools having gone to chairs in the university. And I have known of one such case in which the medical college later urged the professor to come back to its department; but the invitation was declined. Men of ability usually choose the atmosphere in which they work most effectively.

At the present time the number of scientifically trained men in the medical laboratories is unusually large, and their record as contributors and teachers is far from discouraging. The American Association of Anatomists counts among its members the full time men of professorial rank in almost every department of anatomy in the United States. Of the full professors of anatomy there are forty-five with a medical school education, and twenty-seven have been educated in the universities. Among the professors with the degree of M.D., thirty-five are directors or heads of anatomic departments, while twenty-one of the non-medical professors likewise head departments. In this country there are seventeen assistant and associate professors of anatomy with the M.D. degree, and twenty-four men of similar rank who are doctors of philosophy or science. Therefore, of the professional anatomists, sixty-two have gone into the subject after receiving the medical degree, but only the smaller percentage of these have served as hospital intern or had any clinical experience other than that obtained during the last year of the medical course. The same, in general, is true of the European anatomists. As Dr. Symmers mentions, Guy's Hospital requires the anatomist to have passed the examination for a fellowship in the College of Surgeons. It must be known, however, that this is simply another examination: the candidate need never have served in a hospital or had clinical experience. I have met men studying on the continent for their fellowship examination, and it is largely a matter of cramming much like our state board and hospital examinations. The fellowship is sometimes taken by a chemist working in the laboratory merely to obtain the letters F.R.C.S., which mean much to some people.

After the medical graduate becomes a professional anatomist, his time and efforts are so completely devoted to the difficult task of learning the subject and problems of morphology, and the teaching of students, that interest in the practical aspects of medicine other than its educational phases is soon lost. It has been said in this country that the teaching of medicine is not a medical problem but an educational problem.

Fifty-one professional anatomists have received their morphologic training in the universities, and have developed an appreciation of the medical and surgical aspects of the subject through a contact with the clinics after becoming associated with the medical school.

In considering the members of the American Physiological Society, it is found that honors are equally divided as to the number of full professors from the medical school and scientific school groups. There are twenty-three professors of physiology with the M.D. degree, and twenty-three with either the Ph.D. or D.Sc. Of the assistant professors, ten have the M.D. degree and thirteen do not. Three of the professors of physiology, who were not educated in the medical schools, have filled with distinction the position of dean of three leading medical colleges, Johns Hopkins, Minnesota and Virginia.

The Bio-Chemical Society shows only three full professors and one assistant professor of chemistry in medical schools with the M.D. degree. There are twenty-two full professors and twelve assistant professors of chemistry with Ph.D. degrees in the medical colleges. The chemists are derived almost entirely from the scientific departments of the universities, and yet their recent contributions to the chemistry of metabolism and to exact medical diagnosis have been of the utmost importance. One of these Ph.D. professors of chemistry has recently filled the office of dean of Washington University Medical College most successfully.

In pharmacology the conditions are reversed, there being sixteen full professors and eleven assistant professors with the M.D. degree, and only four full professors without the M.D. degree. It would be unnecessary to compare the recent accomplishments of pharmacology with those of biochemistry.

The numbers of professors in physiology and chemistry are seen to be fewer than in anatomy on account of two facts: In the first place, in departments of anatomy the courses in gross and microscopic anatomy are frequently each in charge of a full professor or at least of an assistant professor. The second reason for low numbers in physiology and chemistry is that in some of the smaller schools the two subjects are taught under the direction of one professor. There are still a few settees among the furniture of the faculty room in the medical schools. In some cases this is due to lack of men, but more often to lack of money.

Finally, on a percentage basis the men of professorial rank with the M.D. degree are thus distributed in the different medical laboratories: Of anatomists, those having the M.D. degree constitute 55 per cent., of the physiologists 48 per cent. and of the medical chemists only 10 per cent.

All of the head pathologists have the M.D. degree, yet many of the pathologic laboratories contain, among their staff, men without the medical degree. Several leading professors of bacteriology in the medical colleges have had their initial training in the scientific schools and do not have the degre of M.D.

These different percentages of doctors of medicine in the various laboratories indicate that the earlier in the medical course a subject is given, and the less that subject is taught in the clinical years, the more surely will the student fail to develop a lasting interest, and never come back as a laboratory worker in the subject. At present, chemistry is taken earlier in the course and is less used in the instruction by the general clinician than the other laboratory subjects. Thus few, if any, doctors of medicine come back into the chemical laboratory. Even in England many of the leading physiologic chemists have not taken the medical course. A number of these men are of international distinction—Plimmer, Hopkins, Bayliss, Schryver, Armstrong, Harden, Dakin, Barger and others. Physiology is considerably more used and reviewed in the later years of the course, and so more medical men are found in this laboratory. Anatomic knowledge is employed still more throughout the course, and more than half of the professors have the medical degree. Pathology, being the science of disease, is available only in the medical college, and is used throughout the curriculum. Here, as one would expect, all of the heads of departments have the M.D. degree; but several of these have also worked in the scientific schools for a univeristy degree. As the clinical instruction throughout the country becomes more and more scientific, and involves still more physiologic knowledge and more chemistry, the attraction of these subjects for the medical student will no doubt improve.

At present we see, therefore, a considerable proportion of men trained in the fundamental sciences working in the laboratories of the medical colleges. Do these scientists have a sympathetic appreciation of the medical situation, and do they obtain a knowledge of actual medical or clinical problems? They do, in the

case of those worthy of their hire. The M.D. graduate shows that he has an interest in medicine by having come to the medical college to study. In the case of choosing for a professorship between two men of equal ability, the preference should be, and is, always given to the M.D. by the medical college.

### TRUE SITUATION IN THE SCHOOLS

It may be well just here to consider some of Dr. Symmers' statements of the situation in medical colleges in the light of the foregoing review. He says: "There are schools in this country in which the teaching in physiology and of physiologic chemistry is entrusted to men who have received no systematic training in medicine." This is correct, but does not quite convey the idea that in almost all medical colleges physiologic chemistry is taught by such men, and that half of the departments of physiology are under their direction. If we depended on medical graduates it would be impossible to teach chemistry in the medical colleges, and half of the departments of physiology would find it difficult to obtain a suitable director. Has the physiology taught and contributed by Howell at Johns Hopkins and Lusk at Yale and in New York been less useful to medical students than that taught by any two men that have passed through a medical course in this country? Has the work in biochemistry of Mendel, Folin, Benedict or Van Slyke been inferior to that of one or four men with medical degrees? Who contributes the textbooks of physiology and biochemistry most used by the medical students in the leading colleges of this country? The same texts are frequently used in the medical schools abroad, and some have been translated into continental languages.

To quote again: "There are at least two representative schools in this country in which the chair of anatomy is filled by men neither of whom holds a degree in medicine." This does not fully describe the situation, since there are twenty-one heads of anatomy departments who do not have a medical degree, and thirty-nine who have. Only very few of the thirty-nine did more than finish the last year of medical college, so that they have had no hospital or clinical experience other than that obtained in the medical course. Dr. Symmers fears that the anatomist without the medical degree is too short-sighted an individual to be able to enliven his course by constant reference to points of surgical value. Old songs all have a mellow tune! Eighteen or twenty years ago by no means all of the medical colleges in this country had professional anatomists teaching the subject; to put it gently, they understood little anatomy. Thus, some physicians still have dim recollections of surgical points learned in the anatomy class. They might realize, however, that they failed to receive a conception or an understanding of the principles of development and structure which enter into the make-up of the human body. These principles of structure have an important medical as well as surgical value. The good mechanic must not only understand the structure of his machine but should know how it is built and what each part does. The human body deserves at least such knowledge of its parts. In teaching the anatomy of fractures and dislocations to thirteen classes of military surgeons, I found them all to realize that the same knowledge of anatomy was involved after the fracture or dislocation as before. As a fact, it isn't any more the surgical points of value than the anatomic points of value, when properly given, which enliven the course. The study of living models, which should begin on the first day, brings real life and interpretation into the modern anatomic course. It is probably best for the anatomists to teach anatomy and the surgeons surgery. Every one forgets the details, but the fundamentals of a subject are the laws which live in the mind of him who has known.

The teaching of embryology, Dr. Symmers says, "is commonly left to instructors few, if any, of whom are capable of vitalizing the intimacy between it and pathology, notably in the vast domain of tumors." Reversing the idea, the embryologist is often impressed by the inability of the pathologist to give logical interpretations, on account of a lack of first hand knowledge of embryology. Embryology is one subject that must be studied first hand in order to use it in deductive reasoning. There is a surprising number of able embryologists of international reputation teaching in American medical colleges, and Minot and Mall were their leaders.

"The teaching of histology is all too often entrusted to an assistant with the alphabetical distinction of a bachelor's degree in arts or science." This is a mistake in either the place or the time, as today in the United States a professor with one or two doctor's degrees generally gives the histology course.

How could any intelligent person, trained as a scientific investigator, camp for many years within the walls of a medical college, teaching a basic medical subject to students as well as doctors of medicine, without knowing what the problems of medicine and surgery must be? How could a medical student gather in so much during the last year or two of the course, that is, on supposition, beyond the grasp of the scientifically trained men who taught him during the previous two years? It should be comprehended that these laboratory men may learn first hand without a teacher. Every medical man does the same. Some students actually learn in spite of a teacher. The one great defect in the general school system as well as in the medical college is that the student is so rarely expected to learn for himself, he must be taught and too often from books. After all, however, it takes very simple mathematics to prove that the world would stand dead still but for the fact that each generation of students knows more than its teachers. This little *more* they learned for themselves, and this is the degree to which the generations push the world forward.

It must be realized that the men with the M.D. degree coming into the laboratories quickly lose touch with the clinical aspect of things in their effort to master and do creative work in the laboratory branch of their choice, while, on the other hand, the scientific man comes into the medical laboratory after being trained in his particular subject, and his effort for the first number of years is to acquaint himself with the medical bearing of things. Almost all such men that I know have studied general pathology and have attended systematically medical and surgical clinics for longer or shorter times.

Why is there this periodic excitement on the part of some clinicians and occasionally a pathologist, such as my friend Dr. Symmers, regarding the dangers to medical teaching and practice that might come from these men educated in the scientific schools? There is not an instance in history, so far as I have been able to gather, in which any harm has been done, and yet men of such training have worked in medicine for quite a long while in all the civilized countries of the world. The men who have aided in the past are not likely to

damage the future. But has the progress of medical education in this country been aided at all times by all the physicians themselves?

### CHANCES FOR IMPROVEMENT

No man has been longer or more intimately connected with the development and progress of medical education in this country than Professor Welch. It is interesting to note that in organizing the School of Hygiene and Public Health at Johns Hopkins he has associated himself in the first place with another leader, Professor Howell, and has headed several of the chief departments of the school with men not of medical college training but of international reputation in their scientific lines. Public health and hygiene are certainly fields that should be entered by men of the medical profession.

How does a university choose its professors? In the case of a real university, by selecting the most eminent man available in the field, and certainly with little regard for his early college degrees. The remarkable progress in medical education has taken place since the better medical schools have adopted the same method.

Finally, what are the actual reasons why the medical schools do not produce a sufficient number of men for medical laboratory sciences? The first and most important reason is rarely mentioned, and that is, that the laboratories of the medical schools have not even yet been developed up to the university standpoint. The medical school is strictly on a college basis, the instruction is almost entirely by classes, and the departments are considered complete when the staff is sufficiently large to handle the routine curriculum courses. This is the college standard all over the world. Such a college is merely for educating the individual, and not for training and offering the atmosphere and opportunities for the mastery of a science and the investigation of its problems. This is the duty of the university. How do the great universities produce chemists, physicists and biologists? They accomplish this by conducting university departments of sufficient size to cover the chief phases of the subject, and by employing not one professor of chemistry in a department, but from four to six. Many schools of zoology have four, five or more men of distinction as professors in the laboratory, and here a student, already educated in college, can obtain a broad and thorough acquaintance with the problems of biology from men investigating its blind channels by observation and experiment.

In the second place, the usual routine inelasticity of the medical course causes the student to feel that he must not miss anything, and he is hurdled through with little opportunity to observe whither he is going. Now, it so happens that many of the medical colleges of England, and most of them on the continent of Europe, have more elastic arrangements; the student often spends longer in his actual medical education and almost always has an opportunity to ease up on the routine and become interested in some particular subject or branch of the medical organization. Then, particularly on the continent, the first condition comes into play. The laboratory departments of the medical school are developed on as complete a basis as the university departments, and there is not only one, but often four or five men of eminence working in the same laboratory of anatomy. This is often true even in the small universities, such as Freiburg, Würzburg and Jena. Therefore, the elasticity of the curriculum permits the best students to become interested in the fundamental sciences, and the development of the departments in the medical schools is sufficiently mature to allow them not only to care for such men, but also to attract many of the best to come.

In this country there have been only a few such laboratories in the medical schools; but these have worked. The one in particular which recommends itself to my mind was the laboratory of anatomy at Johns Hopkins as conducted by the late Professor Mall. There was more than one professor of eminence in the department, and it had developed on a university basis. This laboratory, through the personality and ability of Mall, was able to perform the miracle of transmutation. It appealed to the medical student who had come with the primary object of entering the practice of medicine, and convinced him that medicine cannot live by practice alone, but that new truths await discovery on which the progress of the profession depends. The laboratory flourished to such an extent that it has supplied the heads of the anatomic departments in eight medical schools and has exerted a profound influence on all the rest. The salaries offered to induce these men, usually poor, to come into anatomy were notoriously small; but under Mall's influence there was no hesitation to accept low living for high thinking. Few, if any, other medical laboratories can boast of such a record, and it was established in spite of conditions.

Mall was a medical graduate, but there were no "lay professors" to his eyes. There were only those who possessed a knowledge of their subject and could contribute discoveries in aiding its progress, and others lacking such qualities. The first group he considered valuable; the second was not. Only on such a classification can medical science and medical education be improved.

Another anatomic laboratory of university dimensions is developing in the University of Minnesota Medical School. There are now at least four full professors and several assistant professors, about half with and half without the M.D. degree, engaged in investigation and teaching in this institute. It is interesting to recall that a university trained physiologist is the dean of this college. When we have most of the medical schools of the country with laboratory departments developed to this extent, there will no longer be a scarcity of medical students coming into laboratory work. But on the contrary, not only will enough of them desire a scientific pursuit to man the medical laboratories, but medical men will compete for the chairs of biology and the natural sciences in the universities.

Medicine, as well as every other profession, needs masters in their field, and past history has shown that they can be relied on to extend the field and properly teach the subject. A school need not desire an eminent physician as professor of anatomy, since such a man would rarely be an eminent anatomist; nor need it desire an eminent chemist as professor of medicine since, again, such a man would not be an eminent physician. An engineering school does not select a successful engineer, or even a trained engineer, to teach the fundamental principles of either chemistry or physics to the students of engineering. A medical graduate who desires to teach physiology does not become a physician but must become a physiologist. As Bernard Shaw puts it, "It scarcely becomes a waiter to have a barrister for a son; neither does it become a barrister to have a waiter for a father."

The increasing opportunities for full time clinical teachers and investigators, along with the tendency to include a fifth clinical year in the medical course, are factors which will obviously tend to make it still more difficult to attract the medical graduate into the laboratory subjects.

Lastly, the question of university salaries is a vital one, but let us not be deceived into thinking that this is the only element involved in keeping medical men out of the laboratories. The conditions mentioned above are certainly of great importance. Proper salaries, however, will do much to put the laboratory teacher on a more efficient and dignified basis. There are still two opposing parties in the campaign for the "full time" clinical teachers, but there is a single fusion ticket which every one favors for the "full paid" laboratory teacher. The directing professor of a laboratory department in the leading medical colleges should receive a $10,000 salary, and other members of the department should be paid accordingly.

There must always be two parties to medical progress, the individual, it matters not who, contributing the fundamental discoveries, and the doctor of medicine, with a keen appreciation of the significance of things, to apply the discoveries in practice. The physician will appreciate the more keenly when he is trained by the best masters in the principles of the sciences which are certain to contribute the discovery.

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## HOSPITALS OF GREECE

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Reports received in Washington, prior to the sailing of the American Red Cross Commission to Greece, laid emphasis on the needs of the Greek hospitals, which were said to be overcrowded and short of supplies and equipment. Following up this information I made a careful study of the hospital situation as one of the first duties of the commission. The policy of detailed inspection was followed, and information secured at first hand regarding the situation.

The natural independence of the Greek character, and pride in Greek institutions, often masked the real need, and we discovered early that it was necessary to visit each hospital and to learn the actual conditions from personal investigation. The casual visitor was usually told by those in charge that, while there were many things they could use if they had them, they were getting along as well as the situation would permit. The true condition developed only after the establishment of mutual confidence. Some of our professional visitors, meeting well trained Greek physicians in charge of large hospitals, were at first led to believe that they had ample supplies and equipment. In one hospital we found 300 patients without proper beds or bedding, and the supply of drugs and other essentials was absolutely exhausted; and yet the pride of the officer in charge prevented him from feeling at liberty to acknowledge the real situation developed by the war. When later we sent a consignment of a few essentials, he was exceedingly grateful.

Another reason for making a personal investigation of each hospital was the criticism often heard of wholesale and indiscriminate distribution of supplies in other countries. The Greek commission decided that it would not be guilty of this error if it was possible to avoid it. Relief was administered only after a careful personal investigation by either the head of the department or some member of his staff, usually a physician, but if not, always an American trained nurse. The head of the department personally visited more than half of the hospitals to which relief was given, and many of them were visited several times.

Some well meaning friends in Washington and Paris thought that Greece had been in the war such a short time that there could be no great need for aid in Greece or in the Greek hospitals. The same argument made against aiding Greek hospitals would have applied equally well to France. These countries were not appealing to the American Red Cross as paupers and suppliants, but as our allies engaged in the greatest struggle of history and with the most desperate and unscrupulous combination of enemies ever met by the soldiers of peace-loving nations. It was just as much our duty to aid brave little Greece as brave big France. Both were prosperous, and in normal times able to meet their civic obligations. France had had many years of peace in which to develop her resources, while Greece had been almost constantly at war since 1912, and in addition had been torn asunder by internal dissensions and revolution, resulting from the disagreements between a pro-German king and a pro-Ally people. This struggle between the Venizelists and the Royalists was as much a part of the whole struggle of the Allies with Germany as was the Battle of the Marne.

The state of transportation and the difficulties arising out of the complicated control called for great patience and farsightedness in dealing with the problems. However, the assurance given to us by the officers of the national Red Cross, and the fact that the Greek government gave us free transportation of supplies from New York up to 300 tons a month, led us to believe that the first consignment of supplies ordered before leaving the United States would be in Athens on our arrival. Soon after we had made a preliminary survey of the situation, we began to send additional requisitions to Washington for the things we found absolutely necessary. The slow way in which supplies were received in Greece was no doubt due to conditions that could not be controlled, but it prevented the amelioration of much suffering and made impossible the saving of many lives.

We were assigned by the Greek government to the department of Mr. Jean Athanasaka, undersecretary of state for war, bureau of hygiene and sanitation, through whom we developed the lines of work which the American Red Cross could undertake for relief in Greece. This broad-minded and public-spirited official used every effort to forward our work.

The sudden cessation of hostilities in the Balkans was looked on by many who were not on the ground as another reason why American Red Cross assistance was no longer needed, in forgetfulness of the fact that it was impossible for the civilian, or even for the Greek government, to secure necessary supplies in the market, regardless of financial ability. Furthermore, while many citizens of Greece were rich, the government was poor. In fact, the Greek army was still intact, doing more or less active service in Russia, Asia Minor, Thrace, and Macedonia a year after the signing of the armistice; and the epidemics of influenza and of typhus kept a heavy burden on the hospitals.

### CONDITIONS RESULTING FROM WAR

The war had wrought havoc with the Greek hospitals. Practically all the civilian hospitals had been converted into military hospitals. The epidemic of influenza was quite as widespread and severe in Greece as elsewhere. They had passed through epidemics of typhus in Macedonia, Epirus and the islands; and on looking back at the situation, it is easy to see why practically all of the hospitals had exhausted their reserves of equipment, stores and medicines. The richest and best equipped hospital in Greece had no adhesive plaster, gauze, roentgen tubes or cotton, not to mention many other hospital essentials, and during the six months following our arrival was not able to obtain these on the market. Many hospitals had no hypodermic syringes or needles, and no thermometers or anesthetics, and lacked many other necessary but less important items. As soon as relations of mutual confidence were established, we received almost daily, from both civilian and military hospitals, requests for the most ordinary, everyday supplies which they were unable to obtain from any other source than the American Red Cross.

There had been no adequate accumulation of stores since the Balkan wars for the day of need. The country was plunged into active participation in the world war by a blockade which made it impossible for her to import even the most essential articles. For the sake of the argument we might still admit that her wealthy citizens were financially able to supply all her needs; but however willing they may have been, to do this was impossible. The world's stock of hospital supplies was all in the hands of the Allies or the Germans. Under the circumstances, this meant that all the surplus available to allied or neutral countries was in the United States, where it was impossible for the private purchaser to buy them or to secure transportation for them. England and France had no surplus stocks to sell. The United States was supplying them. All the world's supplies were required for the Allied armies, and were under Allied control. Prior to her entrance into the war on the side of the Allies, Greece was practically shut off from the world's markets and got little or nothing; and after she entered the war she got only such portion as was necessary for keeping her army in the field and supporting her military hospitals, which was indeed a scanty allowance. There was no way in which the civil hospitals could be supplied, and at the time the American Red Cross arrived in Greece, practically all the reserve stores had been exhausted. In fact, it was this very situation which caused the Greek Red Cross, in May, 1918, to send an appeal to the American Red Cross, and which determined the national Red Cross in Washington to send a commission to Greece.

A second object in making inspections of Greek hospitals was a desire to acquaint the American public with modern Greece, the home of the father of medicine, Esculapius, and his great successor in the science of healing, Hippocrates. Greece has made a wonderful start in providing her people with hospital facilities. She is far ahead of any of her neighbors, owing to the keen intelligence and the widespread education of the Greek people; and the conditions of need we found were due to wars and epidemics, and not to a disregard and ignorance of the value of such institutions. We also hope that in view of our acquaintance for several months with this splendid little nation, the Greek people will be willing to accept a few suggestions by way of constructive criticism. I have left out of this general statement many details, but these will all be found in the reports of the commission to the national Red Cross in Washington. Accompanying these will be about 200 pictures of Greek hospitals and their personnel.

While most of the hospitals were originally intended to provide only for the poor, there is an increasing tendency to extend the service to all classes. Many of those, even in small communities, have excellent buildings, beautifully situated, often surrounded by well kept gardens, and showing a desire to make the surroundings attractive. Often the absence of the same attention to comfort and attractiveness on the interior is in sharp contrast to the surroundings. One is struck by the absence of evidence of active participation of the Greek Orthodox Church in the organization of their hospitals. There seem to be no orders of monks or sisters wholly devoted to the care of the sick. The development of hospitals has been left largely to lay initiative. On the other hand, almost every hospital has its chapel. What Greek administration has already done in building and equipping hospitals is an excellent illustration of the enlightened progress which this people has made. They have always kept in close touch with France, Germany and Italy, and the methods of organization and equipment used are largely drawn from these sources. This makes the situation more difficult for an American to understand. One sees little in Greece to show contact with England or America.

### DATA COLLECTED

In making hospital inspections, we devised a brief form, in order to have the reports uniform. It was expected that these data would provide only the essential facts. This form gave the name, location, character, management, and superintendent, directress or matron; physicians, surgeons and specialists in charge; hospital records, training school, nurses employed and how trained, number of beds and whether free, paid, surgical, medical, children, obstetric, soldiers or special; the facilities offered by operating room, dressing room, laboratory, roentgen department and pharmacy; and remarks covering any other interesting and important facts.

Numerous conferences were held with members of the ministry, hospital officials, physicians and others. We always found them actively interested in developing their institutions.

One circumstance that seriously interfered with preparing detailed reports on the Greek hospitals was the rapidly changing conditions as the country passed from war to peace. Many temporary hospitals had been established. Practically all civilian hospitals had been converted into military ones, and the process of reorganization was rapid and involved constant changes in our data. For example, one hospital of about forty beds was twice taken over by the military and twice returned to its civilian management; was through two epidemics of typhus and one epidemic of influenza, and at the time of our second visit was again administered by the military authorities to provide hospital care for a second epidemic of influenza among the soldiers. While this is rather an extreme case, it illustrates one of the difficulties we encountered in estimating the value of a given hospital. It is hardly necessary to say that a civilian hospital that has passed through so many

changes of management within two or three years has little left with which to begin a normal civilian hospital life in a country so far away from the source of supply as Greece has been during and since the war.

### HOSPITALS OF EASTERN MACEDONIA

This report would be incomplete without special mention of the hospitals in eastern Macedonia, which was the main scene of relief work by the American Red Cross. This district of Greece must be classed with Belgium and Serbia in the suffering that the war brought on its citizens. They not only suffered the natural privations and hardships due to being situated in the war area, but they had recently passed through two wars that had entailed great suffering. Prior to this, they had lived under Turkish rule, which gave them constant hardship from misgovernment; and during the long years in which the grasp of Turkey over her European territory was weakening, Macedonia was the scene of a fierce Bulgarian propaganda almost as devastating as war. The hatred of generations of conflict was around them. Thousands (150,000) were carried from their homes into Bulgaria, where they existed two years under a system of cruelty worse than slavery. Their cities and villages were burned and pillaged, and after the Bulgarians were driven out desolation reigned everywhere. This was the condition when we first entered eastern Macedonia at Kavala early in November, 1918. The deported population was just beginning to return. The military hospital of Kavala was a tobacco warehouse where tobacco crates took the place of beds. The sick were pouring in, but there was little or nothing we could do at that time to help them. The civil hospital had five typhus patients and no others. There was no other provision for the sick in a city which had claimed more than 40,000 inhabitants. Drama was a little better off, but not much. Her small civilian hospital had been taken over for military purposes, and when abandoned by the army was little more than a shell, without supplies or equipment, although this city of 25,000 inhabitants had not suffered to the same extent as some of her neighbors. Seres, formerly a city of 20,000, had suffered more than either Kavala or Drama, and her hospital was practically ruined, so far as service to the sick was concerned, until it was refurnished and its supplies replenished by the American Red Cross. The villages had suffered equally. The sick were on every hand, and there were no supplies or equipment for the most essential comfort.

In aiding these institutions, we encountered many serious difficulties. The long distance from Greece to America, and the great demands of other countries on American supplies, were great handicaps. The time consumed in getting supplies seemed intolerably long, and not infrequently when they arrived the quantities were altogether insufficient and many important things were missing. Much time was lost by the sudden decision to reorganize the work of the Red Cross in the Balkans and place the several commissions under a general commission for the Balkan states. Not only was time lost by this reorganization, but many supplies intended for Greece were diverted to other fields. No doubt, in some cases the conditions in other countries were more urgent; but more often the diversion of supplies was due to a misconception of the situation based on information from sources that could not have had sufficient and proper information.

### CLASSIFICATION OF GREEK HOSPITALS

While the hospitals of Greece could naturally be divided into three classes, civilian, military and special, during the active progress of the war they were all military. During this stage the military hospitals were divided into permanent, temporary and civilian, taken over for military purposes. It was necessary for the government to establish purely temporary hospitals in addition to those taken over, and some of these could scarcely be called hospitals. For example, one so-called hospital was nothing more than a series of single walled tents in which more than 800 patients were lying on the ground with nothing but thin mattresses or blankets under them. These conditions were the best that could be had at the time. A number of hospitals, such as hospitals for the insane, were visited, but no attempt was made to study them in detail, as the extending of emergency relief was all that the American Red Cross could undertake.

We inspected and have reports on practically all hospitals in Greece, of which forty-seven were military (or being used for military purposes at the time) and fifty were civil, making a total of ninety-seven. Seventeen of those classified as military will return to civilian service as soon as the country is on a peace basis. These hospitals have beds for more than 20,000 patients. Practically all the military hospitals and the majority of the civilian were given substantial assistance by the Greek commission of the American Red Cross.

A word is due regarding the way in which our work has been received in Greece. As has been said elsewhere, we first met an attitude of pride in their institutions and a spirit of independence and reserve in seeking aid from the American Red Cross. We have rarely been made to feel that there was any disposition to impose on us in any way. On request they have stated their needs fairly and have accepted what we could give them in an attitude of delighted appreciation. The files of the Greek commission of the American Red Cross will show a large number of letters of appreciation from managers, physicians and boards of directors, of the most kindly and appreciative tone. Often the name of the "American Red Cross" will be found on the marble tablet containing the names of benefactors which is usually placed in the main hall of a Greek hospital.

### CONCLUSION

The time for reorganization is at hand. Greece, which is a peace-loving country like America, is looking forward to a long period of peace when there will be opportunity to develop and improve her institutions, and we have had ample indication that she will then turn to her allies for suggestions and help. The previous leadership led her to provide only for the army and for the poor, with the result that in most of the hospitals the elements of comfort, cheer and social and moral improvement, which we consider so essential, are lacking. The vase of flowers, the screened window and porch, the dainty tray, the music, and many other things which come with the training, skill and human touch of the trained nurse will change these bare wards from couches of distress and suffering to homes where the sick may be surrounded by all the comforts of a home with the addition of all those touches of human sympathy which an educated and trained nurse instils. The three outstanding needs of most Greek hospitals are, modern sanitary appliances, fly screens, and proper

training schools for nurses. To meet this last need the American Red Cross will establish in Athens a training school for nurses on modern American lines. The splendid educational advancement of Greece along other lines makes her ready and, judging by many expressions made by her citizens, willing to accept new standards for her hospitals. It is in this that American influence can be of great service. Our constant visits to the hospitals and consultations with the managers, physicians, nurses and others interested have convinced us that there will be radical changes in the hospital ideas in the near future. In another chapter of this report will be found a brief detailed analysis of each hospital. In securing these data we have seen every department of almost every hospital in Greece, and we trust that the accumulation of data and the analysis of our findings may lead to a new understanding of what the hospital stands for in a community. During our inspections we uniformly made a list of the more essential needs of each institution, and in making our requisitions on Washington, Paris and the Balkan Commission for supplies, we based them on the actual conditions. Our great difficulty was to get the supplies most needed.

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## EMPYEMA AT THE CINCINNATI GENERAL HOSPITAL DURING THE INFLUENZA EPIDEMIC*

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As a natural result of the pandemic of influenza of 1918-1919, there has accumulated a literature sufficiently extensive to form a library of moderate size. A large proportion of published papers deal with the subject of empyema; and since for the first time in the history of the disease, hundreds of thousands of men, in the prime of life, were congregated in the close quarters of army camps and camp hospitals, it is natural that the preponderance of articles should treat of the disease and its sequelae as observed under these conditions. This fact lends justification to a presentation of this study of empyema, based on experiences during the epidemic, in the surgical services of the Cincinnati General Hospital.

An apology might seem indicated for the incompleteness of many of the records, particularly the bacteriologic; but this is accounted for by the fact that there was a dearth of physicians in civil life and that at one time seventy of the nurses were ill with the disease.

From Oct. 1, 1918, to May 1, 1919, there were admitted to the Cincinnati General Hospital 3,688 cases of influenza, of which 625, or 16.6 per cent., proved fatal. Whereas this death rate from influenza appears high, it must be remembered that only the seriously ill sought admission to the hospital wards. Among these 625 deaths, five were in cases of empyema which came under our surgical care. Altogether, fifty cases of empyema were transferred from the medical to the surgical service, or were primarily admitted to the surgical service, though the latter was not often the case. In many of the 625 cases, empyema was recognized by exploratory aspiration, but was a small factor in the death rate. As was experienced elsewhere, a very large proportion of the patients died from the toxemia incident to the pulmonary complication, before the condition of the patient or the course of the empyema warranted surgical intervention.

In many of these quickly fatal cases, pleural effusion of greater or less extent was doubtless present. It was early recognized by the medical staff that influenza toxemia with moderate pleural effusion should be treated by aspiration alone, and that early surgical interference of greater magnitude was apt to be followed by speedy death, whether as a result of the interference or despite it cannot be determined. In our surgical services, aspiration in the cyanotic stage was practiced in only two cases, but both proved fatal. It was evident that the cyanosis was not the result of pulmonary compression from pleural effusion, but was caused by the toxemia due to hemolysis. In two cases, aspiration of small quantities of turbid fluid was followed by recovery.

That later interference in cases of empyema offers a better possibility of recovery is manifest by our series of forty-six cases in which operation was performed by incision, with three deaths in the hospital and one two days after release. The average stay in the hospital before operation was 14 7/10 days. Some of the patients were not admitted until a day or two after the inception of the disease, and it is therefore fair to assume as an average that at least sixteen days elapsed before operation.

The average age of the patients was 21.6 years, somewhat below the average in military camps; fourteen of the patients were under draft age. It might be inferred, therefore, that the low mortality rate in our series of empyema cases might be attributable to the lower average age of our patients, in accordance with the well known fact that metapneumonic empyema is much more tractable to surgical interference in young subjects than in those of more advanced years. Curiously enough, however, there were three deaths among the fourteen patients under draft age, their ages being 15, 16 and 5 years, respectively. On the whole, the age incidence of the disease in the civil practice of our hospital did not differ materially from that which obtained in the military and camp hospitals.

It may well be claimed that the type of empyema which prevailed in the influenza epidemic among the civil population differed in severity from that observed in military hospitals. It is regrettable that our bacteriologic examinations were not complete; the streptococcus alone was found in eight cases; the pneumococcus in seven; both streptococcus and staphylococcus in nine; and both streptococcus and pneumococcus were found in six cases.

The treatment instituted in all cases of empyema was that of drainage with immediate occlusion of the pleural cavity, after the manner I have previously described.[1] Because of it, or despite it, the mortality rate was only 9 per cent.; although certainly in two, and possibly in three of our cases, there was a double empyema, necessitating bilateral drainage. In none of these three cases, however, did the disease affect the two sides at the same time; there was an interval of from two to three weeks between the operations.

The mortality rate after empyema operations is ordinarily not considered very high, and yet we find that "in 299 consecutive cases observed in so excellent an institution as the Mount Sinai Hospital, during the period of ten years, the mortality reached the formidable

* Read before the Southern Surgical Association, New Orleans, Dec. 16, 1919.

1. Ransohoff, Joseph: A Simple Method of Draining Empyema, J. A. M. A. **66**: 1196 (April 15) 1916

figure of 28 per cent."[2] The low mortality rate in our series (9 per cent. in forty-six cases, including some bilateral) warrants the publication of this report, and justifies in a measure the assumption, or perhaps presumption, that the method of treatment bore some relation to the favorable results.

The operations were for the most part performed under local anesthesia (in twenty-nine of forty-six cases), and whenever the intercostal space was ample, rib resection was not resorted to. In twenty-six cases rib resection was performed, and in twenty, intercostal drainage without rib resection. An ordinary drainage tube was used, with collapsible tube attached with or without a shield. There is always some danger of the shield's coming away from the rubber tube. One of our patients, a lad of 16, still carries such a shield within the thoracic cavity. He left the hospital forty-one days after operation, without the slightest discharge; the roentgen ray shows the shield in close relation to the chest wall. In most cases a tube was used without a shield, being introduced through an opening just large enough to permit its introduction. The incision was made at the most dependent point in order to assure efficient drainage; but not so near the posterior median line as to interfere with the free passage of the pus into a receptacle. The pus was, of course, never allowed to escape rapidly, and I am quite sure that the fluttering of the mediastinum, which is such an element of danger in rapid evacuation of the pleural contents, was thus avoided. The pleural opening and the outer incision were at once made water-tight by sutures.

In only one instance did death occur on the table, and this in one of the extremely toxic cases referred to above. Irrigation with the chlorinated soda or other solution was not practiced in our cases during the early postoperative stage, although from military hospitals came paeans in praise of this procedure. In the later stages if the discharge continued, we resorted to the use of the Carrel-Dakin method with good results. As a primary measure, while the patients are still very weak, I believe that there is not a little danger connected therewith. It should always be borne in mind that in a considerable number of cases of empyema, particularly those following the insidious creeping pneumonias of influenza, subpleural abscesses, often of diminutive proportions, are discovered; it is because of the rupture of one of these abscesses that the pleurisy in reality develops. Injection of an irritating solution into the pleural sac is, therefore, always associated with the danger of irrigating the bronchial tree, the only tree for which irrigation is contraindicated. In not a few instances in which irrigation was practiced later, the fluid was expectorated by the patient and further irrigation had to be avoided. In only one of our cases did we have the unusual complication of septic peritonitis:

> Briefly, the case was that of a medical student in a training camp, who, because of dislike of the surroundings in the military hospital immediately after the armistice, was discharged as well, although he had been ill for ten days. He entered the hospital with an empyema, streptococcic in character, and was operated on forty-four days after the inception of the disease. Three weeks later there developed what seemed to be a perforative appendicitis, for which a laparotomy was done. Streptococcic peritonitis was found; the appendical peritoneum was injected, though not more than the rest of the peritoneum, with plastic lymph and seropurulent effusion. An open pulmonary fistula necessitated the discontinuance of the Carrel-Dakin treatment. The patient recovered and left the hospital with a small cavity 266 days after his admission. He has since been sent by the government to Roswell, N. M., for tuberculosis.

The average duration of stay in the hospital after institution of drainage was forty-three days; at the end of this period twenty-nine patients left with the wounds entirely or practically closed and the rest with considerable drainage. This seemingly high average is due to three patients, remaining 96, 203, and 266 days, respectively.

In order to check the end-results in our cases, the patients were followed through the social service. One man died shortly after leaving the hospital; his condition at the time was very serious and he was released against the advice of the physicians. Eight who recovered could not be traced by the social service. Of the rest, one is being attended at the surgical clinic for a slight pleural fistula, three have reentered the hospital for secondary operations, while the remaining patients have been found by the social service to be in good health and at work.

We may, therefore, state that our results with occlusion drainage have been satisfactory. The hospital mortality rate was 9 per cent., including fatal issue in one patient removed against advice. I am not aware that equally satisfactory results have been published from any of the large military hospitals. In comparing results, it would be unfair to charge our good results to the method of treatment alone, since in the large airy quarters of our new permanent hospital better results are obtainable for the relief of respiratory affections than in the cramped quarters of hastily constructed military camps. This factor, however, is not alone responsible for our favorable statistics, since it is evident that the mortality rate of 16.6 per cent. for influenza per se in the Cincinnati General Hospital is only a little less than the average in military camps. It is almost needless to say that in the after-treatment of our drainage cases the patient was quickly advised and instructed in the use of forced expirations by means of Woulfe bottles, and in such thoracic gymnastics as would aid in the expansion of the lung.

## CONCLUSIONS

Finally, if I were permitted to interpret the experiences which we have had at the Cincinnati General Hospital with empyema during the period of the influenza epidemic, and with its treatment, I would crystallize them in the following conclusions:

1. Empyema complicating influenza is in itself not responsible for death; too early operative measures should be avoided and should be limited to simple aspiration.
2. Operation not earlier than the end of the second week gives the best results. Rib resection is indicated only when sufficient space is not at command without it.
3. General anesthesia is not necessary in most cases, but in our experience does not increase the mortality rate of the operation.
4. The old methods of drainage should be given up for some type of the occlusion method, by which the entrance of air into the pleural cavity is prevented and the egress of pus facilitated. A suction apparatus attached to the tube is deemed unnecessary.
5. Flushing of the cavity with Dakin or other solution is unnecessary, except when defervesence does not occur, which indicates that spontaneous sterilization of the cavity is not progressing normally.

2. Moschcowitz, A. V.: Surg., Gynec. & Obst. **28**: 537 (April) 1919.

6. The small pneumothorax which sometimes remains after the healing of a cavity, as has been demonstrated by the roentgen ray, is negligible, since it disappears spontaneously in a short time.

Twenty of the operations were performed by myself, the remainder by various attending surgeons of the hospital, to whom I am greatly indebted for carrying out the suggestions which I believed essential to securing so low a mortality in the treatment of our empyema cases.

The fact that we were enabled to trace end-results in all but eight of our cases shows one of the many advantages of an efficient hospital social service.

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# THE TREATMENT OF MUCOUS COLITIS *

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The name mucous colitis (myxomembranous colitis) stands for a poorly understood clinical entity, and I shall therefore preface my remarks by a brief review of what is implied in the condition as I understand it. It may be defined as a condition characterized by the formation in the large bowel of great quantities of abnormal mucus. It should not be termed "colica mucosa" or "mucous colic," for colic occurs in only a small proportion of the cases. The disease may occur at any period of life from infancy to old age, and contrary to the prevailing belief, is encountered in males quite commonly as well as in females. It is probably hereditary to some degree, as I have found it repeatedly in parent and child, when I have usually noted in the roentgenogram the presence in each of the same type of redundant or looped colon, often with ptosis.

Though mucous colitis is of frequent occurrence, yet it appears to be infrequently recognized. The importance of its recognition is evident if we realize that, although at times the condition of the bowel may be merely incidental to more important lesions, it is often most prominently associated with serious states of physical debility or of mental instability. I would not say that it is a cause of these, but it does strikingly increase their manifestations, and its cure is not infrequently accompanied by their disappearance.

In severe mucous colitis the three outstanding manifestations are: abdominal pain, intestinal putrefactive toxemia and neurotic manifestations. Whether the patients are classed as suffering from colitis, or from neurasthenia or psychoneurosis, or from autointoxication, the mucous colitis must be treated or the patient will not be relieved of the other manifestations.

Usually, the patients seek a physician, not because of the colitis, but rather for persistent constipation, abdominal pain or distress, lack of physical energy, obstinate or recurrent headache, failure of physical or intellectual vigor, mental depression or complete nervous breakdown. Though they may have noticed strings of mucus in the stools, the patients commonly do not mention this unless interrogated. Hence, in a patient showing nervousness, depression of spirit, and lack of the usual forcefulness, it is well to search for a possible mucous colitis.

* Read before the Alumni Association of the University of Buffalo Department of Medicine, June 21, 1919, and the Medical Society of Atlantic County, N. J., Nov. 14, 1919.

## DIAGNOSIS

As there is no distinguishing factor other than the mucus, the diagnosis rests on: (1) the observation by the patient of the passage of mucus, either as strings accompanying the feces or as a complete mucous stool; (2) the finding of the characteristic mucus in a stool submitted; (3) the detection of the characteristic mucus after a test dose of castor oil or a test colon irrigation, or (4) the observation through a sigmoidoscope of a dry mucous membrane in the upper rectum to which are clinging the heavy, tenacious sheets of mucus. If mucous colitis is sought for only when there is colic, many of the most important cases will be overlooked.

*Mucus.*—This is tenacious and appears mostly in yellow, brown or sometimes black jelly-like masses, or in more or less desiccated plaques, strings, ropes, or scablike membranes. The strings may be many inches in length, and on being teased out in water prove to be casts of the bowel, or broad ribbons. Patients sometimes mistake them for intestinal worms. The mucus adheres with great tenacity to the wall of the bowel, so that when encountered postmortem it is removed with difficulty, even with forceps; von Noorden reports that he was unable to drive it off with a strong stream of water from a hydrant. Hence, it is not uncommon to find blood spots on the expelled mucus, as if it had been torn away like a scab. As a rule, the mucus bears only a few leukocytes and is without fibrin. In some of the persistent cases I have frequently noted about the mucus an odor that is entirely different from that of the stools, slightly suggestive of dead fish just thrown up on the beach and before they have become offensively putrefactive.

Besides mucus there are occasionally found quantities of blackish or brownish, gritty, irritating intestinal sand. Some authors report the frequent presence of blood in the stools (Mummery found it in 60 per cent. of cases), but after thousands of examinations I can report that this is not usual, and occurs mostly when the scablike membranes come away. It is regularly present in cancer cases, and frequently with polyposis; but in these cases the mucous colitis is not the important feature.

*Pathology.*—The changes are indefinite; the colon sometimes shows very slight alterations or even rarely no recognizable lesion, but usually the mucous membrane is more or less damaged. In some of the colons removed at operation the mucous membrane of the cecum and ascending colon has revealed a universally distributed area of inflammation, and the whole wall of this part of the intestine has shown atony, dilatation and poor nutrition. In some cases Keith has demonstrated absence of the normal nerve elements of Auerbach's plexus with consequent cecal and colonic stasis. The colon is often redundant or looped, and there is sometimes laxity of the abdominopelvic walls with ptosis of the transverse colon and of one or both flexures, with perhaps a movable cecum. In the persistently toxic cases, pyorrhea alveolaris and gastric achylia are not uncommon findings. Rarely cancer of the colon, polyposis, diverticulosis or some other localized lesion may underlie the condition. Not infrequently the descending colon is found in a spastic state.

*Pain.*—In a large proportion of the cases a certain amount of discomfort is manifested at some stage of the disease. It may range in intensity from nothing more than a little soreness to paroxysms of the most distressing colic; its location may be variable or con-

stant, and in the latter event it has not infrequently led to a futile operation for some supposedly serious abdominal or pelvic lesion. At times, the whole colon, or a part of it, is found to be tender. The colic is the direct result of the attempt by the bowel to expel long-retained and clinging mucus; persistence of the attacks may be taken as an indication that not all the mucus has been liberated. The mucus, acting as an irritant, induces spasmodic contraction of a portion of the colon, and the pain is due to tension in the distended portion above this. The spasms do not produce the painful manifestations, for, as Hurst has shown, bowel pain comes from distention, not from contraction. The pain ceases after the reestablishment of the peristaltic reflex with dilatation below and contraction above.

It is to be remembered that pain of significant degree is lacking in some of the cases, and in many is absent for considerable periods. Yet even during the painless periods the symptoms are more manifest when the mucus is retained, and become less so following its expulsion.

*Constipation.*—In some cases several stools a day are passed, yet constipation exists, for the cecal cesspool seems never to be emptied. Constipation is not necessarily a condition of infrequent defecation, but is rather one of insufficient or retarded defecation (Hurst); colon irrigations have shown that there may be considerable cecal retention of putrefactive contents, though the bowels seem freely open.

*Intestinal Putrefactive Toxemia.*—Without doubt, the neurotic manifestations and the condition of mental and physical fatigability may in many instances be traced directly to a chronic toxemia caused by the absorption of harmful chemical substances formed in the bowel. And it is probable not only that the constipated bowel of mucous colitis favors bacterial proteolysis, but also that the damaged mucous membrane promotes the absorption of deleterious material. The subject of intestinal toxemia is too large to be dealt with here; it is important to remember, however, that quite often the treatment of mucous colitis involves extensive consideration of the associated toxemia. There may be mucous colitis without putrefaction of the colon contents, or there may be putrefaction of the contents without colitis, but the two conditions are often associated.

## COMPLICATIONS

Occasionally we encounter bronchial asthma, urticaria, angioneurotic edema, or erythema, complications which suggest either protein sensitization as a result of absorption of minute amounts of unchanged protein through the diseased bowel wall, or the possible absorption of some chemical formed in the bowel. For instance, histamin is at times a product of intestinal putrefaction, and when absorbed in sufficient amounts is capable of producing asthma, urticaria and angioneurotic edema.

A phenomenon, usually associated with gastric atony and observed by me in a few cases, is tetany.

*Nervous or Psychic Manifestations.*—Many of these patients, though not by any means all, have a variety of nervous symptoms. These may range all the way from a simple impressionability and hypersensitiveness in insignificant matters to severe nervous breakdown or such mental instability, lack of self-control and irresponsibility of action as to bring the patient to the borderline of insanity. Indeed, it is often quite impossible to decide whether the mucous colitis or the psychoneurosis is the primary condition. Conspicuous in many are lack of self-confidence, absence of initiative, autosuggestibility, spells of discouragement, and fatigability, both mental and physical. Interesting are the phobias, such as the dread of visitors, of riding in a train, and of being alone at home or in the city streets. The colitis may begin with, or be aggravated by, a nervous strain, such as worry over money matters, over a wayward child, over a husband who drinks or over some skeleton in the closet, or by the assumption of social or business responsibilities that seem utterly beyond the patient's powers.

In a person of dominant type this onset of inability to cope with the daily responsibilities makes for discouragement, mental depression and fits of dejection. I have known strong men, physicians, lawyers, heads of great business, to be overcome by their feelings of helplessness and to burst into tears in my office. I have seen the president of a great concern weep while saying, "Doctor, I cannot face my directors at tomorrow's meeting." I have heard a medical school professor cry, "It's of no use my lecturing any more, I cannot hold the boys, I have lost my power." One patient, a strong man who had repeatedly put up a 100 pound dumb-bell as many as nine times, in the most doleful manner deplored the fact that he could not then get it up once. And each of these men, as the mucous colitis yielded to treatment, regained his old dominance and power. Sometimes such patients have slipped back again, and have been found to have a new access of the colitis.

What is the relation of the bowel trouble to the nervous system? Perhaps in some of the cases there is the same underlying cause for both the intestinal and the nervous symptoms. Among neurologists it is customary, however, to consider that neurasthenia or a psychoneurosis requires two conditions for its production, namely, an underlying mental deficiency, and a provocative factor the most pronounced of which is fatigue. Yet perhaps the underlying mental deficiency is not such an absolute requirement, for Féré says that "fatigue often provokes ideas of negation, persecution and disparagement," whereas Dubois remarks that "exaggerated fatigue may induce neurasthenic states in the best balanced individual." If, then, fatigue is the great provocative factor, may it not be that mucous colitis is one of the important producers of fatigue, either of itself or through the production of toxic substances? Certainly fatigue and fatigability are among the most striking accompaniments of mucous colitis, the patients being readily brought to a state of exhaustion by serious reading, by visitors, by responsibilities of any kind, or by physical exertion. In fact, they may feel fatigued even though they do nothing. So it is my belief that one of the important causes of these neurasthenic or psychoneurotic conditions is the fatigue or the fatigability which accompanies a mucous colitis.

Furthermore, as mucous colitis may induce fatigue or fatigability, so fatigue from other causes may increase the colitis. Therefore, one of my rules for such patients is "Never get tired, physically, mentally or emotionally."

## PROGNOSIS

I have seen many patients in serious nervous states, who, after the cure of the bowel trouble, have ceased to be more than normally nervous; and because of the possibility or probability of such a happy result, I lay stress on the treatment of the bowel. I believe that

in a large number of these cases a cure is possible, but usually only after persistent treatment for a long time. And I believe that continued or repeated severity in the symptoms is often the result of neglect by the patient or the physician. The classification of the patient as a "neurasthenic" makes the outlook hopeless, for the physician then does nothing. The height of absurdity was reached by a speaker at a recent meeting of the Pennsylvania State Medical Association, when he said that "the prognosis is absolutely hopeless, the treatment is nil, and the sole prophylaxis would have been to sterilize the grandfather."

### TREATMENT

In determining the method of treatment, two facts stand out prominently: (1) that retained mucus is harmful mucus, and (2) that the cure requires a long course of treatment. I am wont to tell my patients that a year is the minimum time in which a cure can be effected. The treatment is directed at the prevention of the accumulation of mucus, and at the removal of the associated conditions, such as colic, constipation, intestinal toxemia, disturbed gastric conditions, bad mental states and depressed general health. We shall take up, first, the treatment of the condition when there is no colic, or after the attacks of colic, and then the treatment of attacks of colic.

I. *Treatment in Cases Without Colic or After the Attacks of Colic.* — This is designed (*a*) to prevent accumulation of mucus; (*b*) to overcome constipation and intestinal toxemia, and (*c*) to improve the nervous and general health.

(*a*) To overcome accumulation of mucus, one of the best measures is a weekly purge with castor oil, or perhaps calomel and salts, or a purgative blue mass or calomel pill. This may be supplemented by colon irrigations every day or two for a week, and then every three or four days for two to several weeks longer, or once a week for longer periods of time. For this colonic lavage the patient should be on the left side for the first gallon of water in order to clean out the lower colon, and then on the back for the rest of the irrigation in order to enable the fluid to reach the cecum. Sometime preceding the lavage the bowels should be emptied, if necessary by an enema, in order to avoid carrying feces back to the cecum and to avoid starting up by the lavage the defecation reflexes which will prevent the passage of the water into the upper colon. The liquid used should be rather hot, and I regularly employ tap water, though occasionally sodium bicarbonate solution, a dram to the pint (sodium bicarbonate is changed to carbonate by heat). Physiologic sodium chlorid solution is not employed, because it makes the patient thirsty. The amount required is usually from 12 to 24 quarts, and it should be given slowly, with the reservoir about two feet above the patient. Frequently the putrefactive cecal contents are reached only after 4 or 5 gallons have been employed. If the irrigation does not bring out the mucus, this may be expelled one or several hours later. I always consider an irrigation a failure if no water is retained to be evacuated after the irrigation is finished, or if the water returns clear throughout; obviously, in such cases the liquid has failed to get past the spastic descending colon or sigmoid. Recently transduodenal lavage with 4 per cent. sodium sulphate solution has been employed with reported success. I have not used it for this purpose.

It is to be noted that when the mucus is readily discharged from the bowel the patient is safe; danger threatens when the mucus stays in and is not readily loosened and expelled. Many of the patients learn this fact, and when the mucus suddenly ceases to appear they will use every endeavor to clear out the bowel in order to avoid a renewal of their symptoms. Sometimes a cathartic taken the same night as an irrigation that seems unsuccessful may bring away great quantities of mucus that has apparently been softened by the irrigation water.

(*b*) The treatment of the constipation and intestinal toxemia is that of any form of constipation. There should be insistence on regularity of bowel movements, but restriction of the use of enemas and colon irrigations. I have seen patients who had come to think that any abnormal sensation could be removed only by enema or irrigation, and who had acquired the habit of using these several times a day. The diet must be ample, for in case of lack of food residue it will be necessary to keep increasing the laxatives. A diet containing bran, fruits and coarse vegetables may be effective, but in the beginning this is usually more harmful to the bowel than a mild tonic laxative. Exercise does not help to overcome constipation, except as it may result in increased appetite. There have been many athletes among my constipated patients. If there is ptosis of the abdominal viscera with laxity of the abdominopelvic walls (and these are exceedingly common), the patient should wear an inelastic binder for mechanical support, and should be put on exercise to help to strengthen the abdominal muscles. The patient should drink freely of water.

The best of laxatives is usually a softening and bulk-producing agent, such as liquid petrolatum, cascara agar, phenolphthalein agar, or small doses of milk of magnesia or salts. But these are not always effective and frequently must be supplemented by one of the tonic laxatives, cascara, rhubarb, aloes, senna, or senna with sulphur in the form of compound licorice powder. A measure of occasional value is the retention in the rectum over night of from 4 to 16 ounces of olive or cottonseed oil. In these chronic cases the drastic cathartics may be successful in getting out mucus, but should be employed only seldom. If such measures as these do not overcome the stasis and the toxemia, the question of surgery should be seriously considered.

Hemorrhoids are a bad complication, as they prevent the use of irrigations, enemas or such strong cathartics as castor oil. They may be treated by the nightly instillation into the rectum, by means of a soft rubber ear syringe, of 60 c.c. of warm olive or cottonseed oil to be retained over night.

(*c*) Improvement in the nervous and general health. The diet may have to be modified according to the conditions of the stomach and upper bowel (achylia, hyperchlorhydria, gastric atony, etc.), and to overlook these is to fail in the treatment; but, in general, at the outset the diet should be of the bland lactofarinaceous type. Later there may be a gradual transition to a coarser type with sufficient vegetable and fruit. But there should be at all times limitation in the amount of readily putrefactive proteins, as found in animal flesh, eggs, beans, peas and lentils, these being replaced, if possible, by much milk in the dietary. Of these proteins, in my experience, those of chicken and egg are most prone to produce putrefaction; and peas and beans are more harmful when dried than when

green. The coarse diet at the outset, as advocated by von Noorden, is likely to give rise to gastric disturbances, particularly flatulence, and it seems quite rational to assume that an excessive quantity of coarse, indigestible, fermenting food will do more harm to some of these damaged colons than any mild laxative drug. But in all cases the diet should be ample and its quantity insisted on, for these patients readily acquire the habit of undereating because of a suspicion that this, that, or the other article of food does not agree with them.

If there is any definite surgical condition in the abdomen, such as appendicitis, cholelithiasis, adhesions, bands or pelvic disturbances, it should be overcome. In persistent cases, some surgeons operate on the bowel itself: (1) For cleansing and medicating the colon; as by appendicostomy or cecostomy, for the purpose of permitting daily irrigations through the whole colon. But these must be continued for from six months to two years (Mummery), and the procedure is not, in my opinion, a valuable one. (2) For overcoming stasis or for the removal of diseased portions of the bowel, by plication of the cecum, ileosigmoidostomy, cecosigmoidostomy, partial colectomy and complete colectomy. The indications for radical surgery and the choice of surgical procedure I shall not attempt to discuss here.

Occupation, recreation and rest in proper proportion should be advised. The patients must not be allowed to coddle themselves. They should get up before breakfast and not lie in bed in the morning; they should recline when possible, at a later period in the day, perhaps best for one or two hours after the midday meal, and they should retire early. They should give less time than usual to social or business responsibilities or give these up entirely, and they should not receive too many visitors. They should avoid adding unnecessary responsibilities to the necessary ones; for example, in a schoolteacher, the taking of extra college courses on Saturday, and on Sunday the teaching of Sunday School; in a business man the devotion of his evenings to club committees or to study. They should not undertake reading of too serious a character. It is of paramount importance that, for the time being, patients give up their ambitions, whether social or otherwise. They must, however, have some recreation, preferably golf, horseback riding, bathing or other outdoor exercise, or attendance at games in the open air.

The great rule is that patients must never get unduly fatigued either physically, mentally or emotionally. I explain to them at the outset that they are temporarily handicapped, and therefore cannot do as much as normal people. On the other hand, I do not allow them to shirk all responsibility, but try to get them to do as much as lies well within their powers, encouraging them to attempt more and more till their full powers are restored. Some women with money take matters too easily and are prone to become chronic invalids, self-centered, hypochondriac, "hipped" on themselves, and leading useless lives. They go from one physician to another, or to sanatoriums, read numerous books about their disease and its treatment, and refuse to permit their ailment to be forgotten for a moment. These patients should be induced to avoid medical books and constant examination of their stools, and in every way they should be encouraged to use their faculties and their muscles in a sensible manner, neither too much nor too little. A wise nurse is a great help in managing the daily life of the female indolent patient.

General hygienic measures, such as cold spinal douches, or alternating cold and hot douches, cold morning baths, cold rubbings up and down the spine, calisthenics, and general massage, with very gentle abdominal massage, are of distinct advantage. A help in the treatment is a change of scene to get away from oversolicitous or nagging friends, or from the wear and tear of home or business. He was a physician of deep perception who replied to the inquiries of the overanxious wife: "Madam, your husband needs a rest. One of you must take a vacation." A visit to one of the spas may furnish rest and recreation away from business and friends and amid pleasant surroundings, with the advantages of hydrotherapy and perhaps the daily ingestion of laxative waters. It is well to remember that nervous people do not sleep or rest well in high, mountainous regions.

The use of tobacco and alcohol, and usually also of coffee, should be prohibited.

Bromids, in doses of from 1 to 2 gm. (15 to 30 grains) once or twice a day are indicated for a short time during the most nervous periods.

In severe cases the patient should be put to bed in charge of a competent nurse. It is bad practice, because of the effect of loneliness, to keep the patient in bed without an attendant.

II. *Treatment of Attacks of Colic.*—This resolves itself into measures (1) to relieve pain and neurotic symptoms, and (2) to promote evacuation of the mucus. These patients feel pain keenly and may writhe in the attacks of colic, and they may even throw themselves out of bed.

1. The pain and neurotic symptoms may be relieved by rest in bed, a large dose of bromid, 2 to 4 gm. (½ to 1 dram) by mouth, a hypodermic of atropin sulphate, 0.001 gm. (1/65 grain), with codein phosphate, 0.03 gm. (½ grain), and hot applications to the abdomen in the form of a hot water bag, electric pad, poultice or stupe, or a hot bath. On account of habit formation in neurotic subjects, morphin should not ordinarily be employed; but when the recurrence is not frequent and the attack is very severe, morphin may be the best remedy. To relieve the colic the best single drug is atropin; it is of no use for the cure of the colitis.

2. To promote the evacuation of mucus one may use (*a*) a large dose of castor oil by mouth. This acts by making vigorous peristalsis, which, coming from above the mucus, tends to separate this from above downward and to carry it onward, while at the same time it abolishes the spasmodic obstruction through the peristaltic reflex which produces dilatation below and contraction above. (*b*) Colon irrigations with tap water or a solution of sodium bicarbonate, a dram to the pint, should be given warm and at low pressure (2 feet). On account of the spasticity of the descending colon it may be impossible to get the liquid up into the colon at first, but persistence and gentleness may result in success. Irritants, such as silver nitrate, should not be employed in the already highly sensitive colon.

Often the combination of castor oil by mouth, codein and atropin hypodermically, and colonic lavage will be followed by relief and sleep. But if the attack is very severe and persistent, and especially if the irrigation is unsuccessful, it is a good plan to put the patient in the knee-chest position and to inject slowly into the

colon from one-half to one pint of warm olive oil or cottonseed oil, to be retained over night or as long as possible, a towel being placed over the anus and a rubber sheet on the bed as protection in case of leakage. This injection is often followed by the passage, a few hours later, of the oil and an abundance of mucus, with disappearance of the colic and no recurrence for a long time, if at all.

57 West Fifty-Eighth Street.

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## METHODS OF ADMINISTERING SALINE AND OTHER SOLUTIONS TO INFANTS AND CHILDREN *

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The administration of physiologic sodium chlorid and other solutions to replace fluids lost from the body is a valuable method of carrying certain cases over critical periods. Loss of fluid is more serious in children because of the vomiting that so often accompanies grave illness, and because of the difficulty of giving water by mouth. A relative acidosis may easily result, which in a few hours may greatly increase the gravity of the attack. The reduction of fluid is marked in cases with a history of numerous watery stools, characterized by a rapid loss of weight, hollow eyes, and drawn, pinched expression of the facies. It is my object here to present an outline of the several methods of administering fluids, and to discuss their relative merits.

The method of greatest service is that which will permit the introduction and retention of large amounts of fluid with the greatest ease to the operator and with the least danger and discomfort to the patient.

### OUTLINE OF METHODS

1. *Administration of Fluid by Mouth.*—If a child can take and retain sufficient quantities by mouth, it is obvious that no other method is necessary, except for special indications, such as a great loss of blood as the result of hemorrhage.

2. *Rectal Administration.* — The introduction of fluids by rectum, either through enemas, return flow tubes, or by the drip method has been employed for some years with satisfactory results. If the fluid is properly introduced, there is no doubt that considerable absorption takes place. The method is objectionable in children, because of factors not encountered in adults. Unless the child is prostrated, he is apt to be restless, making the retention of the tubes very difficult. It takes considerable time to introduce the necessary amount of fluid, and the child is more or less disturbed thereby, which interferes with his rest. The fluid is apt to be promptly expelled, especially in diarrhea, and there is always some doubt as to the amount which has been absorbed. However, a great variety of fluids may be given by this method, and there is no special danger attached to the procedure.

3. *Hypodermoclysis.*—In children, especially very small children, small amounts of fluid can be quickly given by this method through a Luer syringe and an intravenous needle, or it can be given by gravity. We have often given fluid in several different areas at the same time. The procedure is very painful and causes restlessness, especially in older children. The amount that can be given is quite limited. While absorption is slow it is sure. It is safest to use physiologic sodium chlorid solution, although I once used a fresh solution of 1 per cent. sodium bicarbonate in two children over 5 years of age who were desperately ill with ileocolitis accompanied by vomiting and very frequent stools. No trouble resulted from repeated injection of fluid, and both children made an uneventful recovery; there is always danger that solutions of sodium bicarbonate will change in character and cause a slough. These cases were seen several years ago; under similar conditions today I would give physiologic sodium chlorid solution by another method that would better answer the indications and cause much less pain.

4. *Intravenous Injection.*—It is not necessary to mention all the fluids that may be given by this method. It is estimated that an amount equal to one sixtieth of the body weight can be introduced through the veins, but much more can be used if the loss of fluid has been extreme. Excretion of the fluid begins at once; if prolonged results are to be obtained, it is often necessary to give repeated infusions. The limited amount that may be given and the difficulty of entering the vein of a small child are the chief objections to this method. With proper technic the method is safe, but it will be acknowledged by any one who has tried it that it is difficult to make an intravenous injection on a small, active infant, especially into the veins at the elbow. In order to overcome this difficulty, other methods have been devised.

(*a*) Intrasinus Injection: In an infant with open fontanel this offers the best means of introducing fluid into the blood stream. The method was first studied by Tobler and was introduced in this country only a few years ago by Helmholz. By this technic, the fluid can be injected through the anterior fontanel directly into the superior longitudinal sinus. As the sinus lies from 2 to 5 millimeters from the skin, it can be easily entered if the fontanel is not closed; at the posterior angle of the fontanel the sinus is wider and deeper. The child is held prone on the table by an assistant, while the needle is introduced in the median line just in front of the posterior angle. If the child is quiet, it is very easy to withdraw blood or to introduce fluid; by means of a Luer syringe, rubber tubing and a three-way cock any amount of fluid can be given without removing the syringe. The needle should be short, and the long point usually found on intravenous needles should be filed away. If a glass syringe is attached before introduction of the needle, constant suction may be maintained for the purpose of discerning when the sinus is entered. If negative pressure is not produced, blood will not flow so quickly, while the operator may push the needle through the inferior wall of the sinus, blood flowing only when the needle is withdrawn. This accident may also be avoided if the needle be introduced at an angle, directed backward.

Any solution adapted to intravenous administration can be given in this way; with physiologic sodium chlorid, glucose and other mild solutions there is practically no danger. It is also an excellent method for transfusion of citrated whole blood in infants.

In cases with a closed fontanel, the external jugular vein can often be used successfully.

(*b*) Injection in the Femoral Vein: This method is practiced in this city by several physicians working

* Read before the Rochester Pathological Society, Nov. 19, 1919.

in the venereal clinics and has produced satisfactory results, especially in children. Arsphenamin may be given in this way to very small infants, and although repeated injections have been made on the same child, no serious complications and no cases of thrombosis have been reported.

While it is possible that the method was previously in use by others, it was introduced in this city some years ago by Dr. E. T. Wentworth, who elaborated the following technic, which has since been followed by himself and others:

If the injection is to be made into the right femoral vein, the operator should stand to the right side of the patient, and with the fingers of the left hand palpate the femoral artery as it passes under Poupart's ligament midway between the anterior superior spine of the ilium and the symphysis pubis. The fingers cover the artery while a medium-sized intravenous needle is introduced into the vein just to the left of the finger tips. The needle may be pushed straight in or at an angle directed upward and backward. A syringe is attached to the needle, and constant suction is maintained until a flow of blood shows that the vein has been entered; the syringe can then be removed and the fluid introduced by gravity. If a Luer-Kaufman syringe with a glass offset is used, the solution can be introduced immediately through the syringe itself.

By this method the intravenous administration to children of any age is greatly simplified; if arsphenamin can be given with so little danger, then certainly saline, glucose and other mild solutions can safely be used.

These modifications make the intravenous introduction of fluid comparatively easy; the child is disturbed only little, and a definite amount of solution may be given quickly, although the amount that can be given at one time is limited.

5. *Intraperitoneal Injection.*—This was first used in St. Bartholomew's Hospital and was introduced in this country by Howland. Blackfan and Maxcy have reported the successful employment of this method.

The instruments needed are a medium-sized intravenous needle, an infusion bottle and rubber tubing. The skin of the abdomen is carefully sterilized with tincture of iodin and alcohol. The skin and subcutaneous tissue are picked up between the thumb and forefinger, and the needle is introduced in an upward direction through the abdominal wall in the midline just below the umbilicus. Care must be taken to avoid piercing a distended bladder, and while there is also danger of puncturing the intestine, no record of this accident has come to my attention. In cases in which necropsy was performed there was found a small hemorrhagic area in the abdominal wall and peritoneum, but no injury of serious importance.

When the needle has passed into the peritoneal cavity, the solution is introduced by gravity. At first I used a Luer syringe; but later I found it much easier to employ the infusion bottle. I have always used warm physiologic sodium chlorid solution, of which from 100 to 250 c.c., in older children from 300 to 400 c.c., may be given every twelve to twenty-four hours, in fact, if no untoward signs develop, fluid may be given until the abdomen becomes slightly distended. However, the injection must be made slowly in all cases, and overdistention of the abdomen must be avoided. After the operation, the abdomen is covered with a sterile dressing. It has been shown by the phenolsulphonephthalein test and by necropsy that from 40 to 60 per cent. of the fluid is absorbed in one hour. The remaining solution acts as a reserve, the gradual absorption of which explains the more protracted improvement as compared to results obtained by other methods.

We had used the other methods at the Infants Summer Hospital, but this year we chose the intraperitoneal route for children who had lost large amounts of fluid by vomiting and diarrhea. It proved superior to all other methods because of the ease and rapidity of administration, the volume of fluid that can be given at one time, and the certainty that no fluid will be lost. The results from this treatment are remarkable; and although it has been used only in the most serious cases, the results have been most satisfactory.

The following case is reported to show that repeated injections may be made without injury to the intestine:

Rita C., aged 1 year, weighing 11¼ pounds, was admitted to the Infants Summer Hospital, August 18, with a history of vomiting and diarrhea for the previous ten days. She was born at eight months, the delivery being instrumental; the birth weight was 7¾ pounds. The child had been breast fed until the present illness when she was put on condensed milk.

On admission the child had a wasted appearance and was semiconscious. The physical examination revealed slight stomatitis, coldness of the extremities, weakness, and great loss of water from the tissues; the temperature was 101.6 F.; the pulse, 148. Stimulating treatment was at once instituted. On the first day she retained one-half ounce of rice water, vomiting all other fluids; on the second day seven stools were passed and very little fluid was retained. The feces contained blood and mucus. There was no improvement in the bowel condition on the third day, and the loss of fluid was producing great prostration. Since no results followed administration of fluid by rectum or the use of stimulants hypodermically, 100 c.c. of physiologic sodium chlorid solution were injected intraperitoneally, with favorable results. It was not until the thirty-fifth day of the disease that the child passed normal stools; even then the bowel condition was far from satisfactory. During this time there had been an average of seven mucous and bloody stools daily; in fact, many of the movements were thick mucus stained with blood. For days in succession she would take less than 1 ounce at a feeding, and vomited a great part of all fluid ingested. She failed to such an extent that it did not seem possible that she could live another day. The temperature ranged from 99 to 102.6, most of the time above 101 F. In all, ten injections of saline solution were made through the abdominal wall, ranging in quantity from 100 to 250 c.c., six being over 200 c.c.

The fluid carried the child over the critical days until the bowel condition began to improve. We had never before seen a child recover after so long and severe an illness. The recovery is evidence of the value of this method of treatment and of the safety with which repeated injections may be made through the abdominal wall.

SUMMARY

1. The administration of saline and other solutions is frequently of great value in carrying children over critical periods of illness, especially in diarrheas with marked loss of fluid.

2. When it is impossible to give fluid by mouth or rectum, intravenous or intra-abdominal injections are indicated. If puncture of the superficial veins proves difficult, the superior longitudinal sinus or the femoral vein may be selected.

184 Alexander Street.

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**Sanitation in Universities.**—Environment plays an important rôle in disease causation and prevention. This is especially true of communicable diseases. It is most important to know and to regulate, so far as possible, the conditions under which students live, the food and water ingested, the air breathed, etc. The division of sanitation is therefore no minor part of a university health service, and ample provisions must be made for this branch of the work. The environment of the student, both on and off the campus, must be regulated and made as sanitary as possible.—John Sundwall, *Pub. Health Rep.*, Nov. 7, 1919.

# Clinical Notes, Suggestions, and New Instruments

## A NEW METAL TIP POSSESSING OBVIOUS ADVANTAGES FOR USE ON GASTRIC OR DUODENAL TUBES

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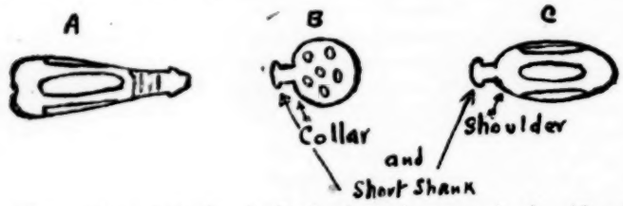
It is with reluctance that I am calling attention to a new tip for duodenal tubes because there are many excellent ones already on the market; but I feel sure that it will interest those members of the profession who are doing gastroduodenal work because it possesses certain definite advantages over any other type with which I am familiar. Perhaps I might better say that it does away with certain disadvantages common to nearly all others.

All duodenal tubes are swallowed rather easily by most patients, but many patients encounter temporary difficulty when the tub is withdrawn from the duodenal zone to the stomach, and more especially difficulty when it passes the glottis on its upward journey, at which time cooperative swallowing control is required on the part of the patient. This applies particularly to all tips of the olive or ball type on account of the shoulder or collar on the proximal side of the tip. They go down easily, but they are much more likely to "hang" at the glottis coming up.

To obviate this difficulty I have been trying out, during the past year, a tip quite similar to that designed by Rehfuss,




Three styles of tip for duodenal tubes: *A*, new style tip with no shoulder or collar and with a long and serrated shank; *B*, ball type tip with objectionable collar and short shank, and *C*, olive type tip with objectionable collar and short shank.

but of elongated pear shape instead of olive shape. The tip is ground down to a tapering proximal end of the same caliber as that of the rubber tubing. Therefore, in withdrawing this tip, all obstruction at the glottis is done away with. All patients, especially those well "tube broken" to many varieties of tips, are unanimously in favor of this one; and after all it is the patient who can furnish the best endorsement in such a matter.

The second advantage of this tip lies in the fact that its shank is slightly elongated and slightly serrated so that the rubber tubing, even when old, will stick closely to this tip under a stout pull without the necessity of its being tied and knotted with a silk thread. The latter point seems to me a very objectionable feature; for these knots instead of getting softer after boiling become distinctly harder, and I feel sure in many cases they traumatize the gastric or duodenal mucosa, especially in the latter zone where the tube may be left in situ for many days for feeding purposes, because the duodenal lumen is comparatively small and the peristaltic action vigorous.

The only duodenal tube with which I am familiar that does not possess the disadvantages I have just stated is the one designed by Jutte. This tube, I believe, is the easiest to pass to the stomach or duodenum, and I still continue to use it very frequently for such treatment as transduodenal lavage; but I do not like it for duodenal feeding because the perforations at the tip of the rubber tubing are so small that they frequently become obstinately plugged with the feeding mixtures. And for the same reason, I have discarded the use of this tube in diagnosis on account of the difficulty of aspirating many catarrhal residuums: and especially have I had difficulty in draining the biliary tract on account of the heavy viscosity of many biles.

Another point worth mentioning in gastroduodenal work is that the tube should be fitted with a glass window situated from about 8 to 12 inches from the proximal end, instead of with the metal connections in common use, so that the aspirated material may be inspected before it reaches the aspirating syringe, vacuum bottle or collecting vessel. By this means, material of special interest may be segregated for special study. This is of paramount importance in gallbladder and gallduct diagnosis.[1] A medicine dropper answers very well if the capillary tip is of the same caliber as that of the rubber tubing, or larger; or special small connecting glass tubes may be obtained from any physicians' supply house.

These tips may be obtained through the Physicians' Supply Company, Sixteenth and Sansom streets, Philadelphia.

1828 Pine Street.

## CAUSTIC BURN OF THE EYE FROM INDELIBLE INK OR LEAD *

WILLIAM H. ELMER, A.B., M.D., ROCKFORD, ILL.

Though injuries to the eye from the introduction of indelible ink or indelible lead are not very rare, the recorded cases have not taken on the aspect of a caustic burn. Therefore this case is presented:

### REPORT OF CASE

Oct. 13, 1919, Miss F. L., aged 20, waitress, complained of pain in her left eye, and said that some ink had entered it twenty-four hours before. She was unable to state how this had happened; she realized that something was wrong only by the symptoms she had suffered, and knew it was ink by the appearance of the eye.

Examination revealed R. V. 20/20, L. V. 20/30, tension 0, both eyes. The left lower lid was slightly swollen, and the palpebral and bulbar conjunctiva of the lower fornix was congested, chemotic, and stained an intense purple, the color of the common indelible pencil lead. The stain increased in intensity downward, and among the tarsal folds was a clean cut, almost black ulcer, as if a fragment of the lead had rested there and exerted its effect strongly at one point. With a probe, it was ascertained that the ulcer was quite deep, almost penetrating to the infra-orbital margin. Almost the entire conjunctival surface beneath the lower lid stained with fluorescein. The upper lid and underlying conjunctiva were negative. There was slight staining of the lower margin of the cornea; the iris was clear, and the pupil of moderate size, but it responded rather sluggishly to light. Examination of the media and fundus detected nothing further.

The eye was irrigated thoroughly with sterile water till the waste showed no color, and then as much as possible of some black granular matter on the ulcer was removed with wet applicators. Atropin, 1 per cent., and argyrol, 20 per cent., were used; and after the conjunctival sac had been filled with sterile petrolatum, a patch was applied and the patient was sent to the hospital for further attention. Petrolatum was used in the eye every two hours for the next day, at the end of which period, iritis was found to be setting in. Atropin was started immediately and used every four hours next day, with the petrolatum continued at two hour intervals. On the following day the pupil was well dilated; and the petrolatum having been discontinued for a short time, fluorescein showed epithelization to be taking place slowly; but the patient was complaining of pain over the left cheek bone, and there was intense tenderness over the left infra-orbital margin, and some swelling and redness. Nasal examination disclosed no indications of maxillary sinusitis, and further investigation by means of the roentgen ray was refused. Dry heat to the painful region was ordered, and atropin, argyrol and petrolatum were used three times daily. Slight adhesions that were forming were broken up with a

1. Lyon, B. B. V.: Diagnosis and Treatment of Diseases of the Gallbladder and Biliary Ducts: Preliminary Report on a New Method, J. A. M. A. **73**: 980 (Sept. 27) 1919.

* From the "Johnson Clinic."

probe. On the third day epithelization was complete except for the ulcer and a slight area around it, the pupil remained dilated, congestion was subsiding, and the pain and swelling over the cheek had improved. On the fifth day, there was no staining with fluorescein, congestion was slight, the purple stain was disappearing, and the complicating symptoms had vanished, whereupon the patient was discharged, to report at the office next day. The appearance at this visit was almost normal, the dilated pupil, slight congestion, and purple discoloration alone remaining, so she was ordered to use a boric acid eye-wash and argyrol, 20 per cent., once daily, and to report again a week later. When last seen, October 25, the eye appeared quite normal with 20/20 vision in each eye. A small scar was visible at the site of the ulcer, but there was no deformity from cicatricial contraction.

COMMENT

How this caustic substance could have entered the eye was not ascertained. Cosmetics for eyebrow and lid margin use might have been the source (and the patient was strangely reticent about the whole affair), but such accidents have been known to occur from pencil lead, though the effects have not been as violent as in this case. A case is quoted in a personal communication to me as having occurred from this source, the same purple stain having resulted, but with no ill effects and with complete recovery in twenty-four hours after use of 1:3,000 mercuric chlorid ointment.

The complicating pain and tenderness over the infra-orbital margin seem to me to have been due to a moderately severe periostitis from penetration of the irritant through the tissues.

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## DEMONSTRATION OF TUBERCLE BACILLI IN THE SPINAL CORD OF A PATIENT SUFFERING FROM TUBERCULOUS MENINGITIS *

HERMAN L. KRETSCHMER, M.D., CHICAGO

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REPORT OF CASE

*History.*—J. F. K., a private, aged 19, admitted to the medical ward of U. S. Army Debarkation Hospital No. 5, Feb. 2, 1919, stated that while on the transport that brought him back to this country from overseas he had an acute attack of bronchitis, which was associated with severe headache, and pains in the chest, back and bones. A few days prior to his admission to the hospital he had suffered considerably from gastric distress.

*Physical Examination.*—The patient appeared very restless and nervous, and seemed excitable. The head, neck and scalp were negative. The pupils were equal and reacted to light and accommodation. There was no increased intra-ocular tension and no rigidity of the neck.

Examination of the lungs disclosed a small area of impaired resonance at the base of the lower lobe of the left lung, posteriorly. At the end of inspiration, a few fine subcrepitant râles were heard. There was a small area of bronchophony. Examination of the heart was negative.

The clinical diagnosis made at this time was a left bronchopneumonia following influenza.

*Clinical Course.*—From the day of admission until February 4, there was no change in the patient's condition. February 4, he complained of slight pains in the back of the head.

Urinalysis made, February 3, revealed a specific gravity of 1.030, some albumin, but no sugar or casts. A blood examination made on the same day revealed 12,200 leukocytes.

February 5, the patient still complained of headache, and examination disclosed the presence of a slight amount of rigidity of the neck. As a result of this examination, a tentative diagnosis of tuberculous meningitis was made, and a lumbar puncture was immediately performed. The fluid withdrawn was slightly turbid. After the lumbar puncture, the headache was relieved.

Examination of the cerebrospinal fluid, February 5, gave a cell count of 222. Smears failed to show the presence of organisms, and the culture remained sterile. The Wassermann reaction of the spinal fluid was negative, and no tubercle bacilli were found in the smears. Examination of the blood disclosed 9,200 leukocytes.

February 7, a second lumbar puncture was performed. This time the fluid spurted from the needle and appeared to be under pressure. Thirty c.c. of fluid were withdrawn. Smears failed to demonstrate the presence of organisms, and the cultures remained sterile. No tubercle bacilli were found, and the Wassermann reaction was negative. No sugar was found in the fluid. Differential leukocyte count revealed 75 per cent. lymphocytes and 25 per cent. polymorphonuclears.

By February 8, the muscular rigidity had very materially increased, and Kernig's sign was present. February 9, the patient developed complete retention of urine, so that he was unable to void and had to be catheterized.

Urinalysis, February 9, demonstrated the presence of albumin in moderate amounts, and a few pus cells and a few casts. The urine showed a pure culture of *B. coli.*

February 10, the patient was very cyanotic and was confused a great deal, mentally. A lumbar puncture was performed, and 100 c.c. of fluid were removed. The cultures remained sterile, and no organisms were found in the smears. No tubercle bacilli were found, and the Wassermann reaction was negative.

February 11, the patient died.

*Necropsy Findings.*—Necropsy was performed two hours after death by First Lieut. Paul H. Christian.

When the brain was removed, a fair amount of clear straw-colored fluid escaped from beneath the meninges. A few fresh adhesions were found at the base of the brain; otherwise its appearance was normal.

Examination of the spinal cord revealed no adhesions between the cord and bony structures. When the meninges were removed, however, a few slight adhesions were observed between the cord, covering a space about 2 cm. in length, beginning at the lumbar enlargement and extending upward. In this area were also found slight subdural hemorrhages, and petechial hemorrhages were found in the cord substance.

The right lung appeared normal. The left lung showed evidences of resolution in one or two areas. In the upper lobe, posteriorly and near the base, there was a spot about 4 cm. in diameter that was undergoing resolution.

The heart was contracted, and there was no evidence of any inflammatory condition. The valves were apparently normal.

The liver, spleen, kidneys and pancreas presented no unusual pathologic condition. The bladder was dilated, and contained about 800 c.c. of fluid.

Postmortem diagnosis was bronchopneumonia undergoing resolution, and a tuberculous meningitis.

*Microscopic Examination.*—The section from the base of the brain showed great round cell infiltration of the pia, and this infiltration was especially marked about the blood vessels. There were also in the pia areas of granular necrosis, with much nuclear débris: these areas were occasionally surrounded by typical epithelioid cells. No giant cells were seen. Perivascular round cell infiltration was also seen in the cortex.

In the section from the lumbar portion of the cord there were dense, small round cell infiltration of the meninges, and large areas of caseation, surrounded by epithelioid cells. In the adventitia of many of the blood vessels in the pia, there was a definite formation of tuberculous tissue.

In the sections stained for acid fast bacilli, there were found a few typical acid fast bacilli in the sections from the cord. No bacilli were demonstrated in the sections from the brain.

The microscopic diagnosis was tuberculous meningitis.

122 South Michigan Avenue.

* From the Medical Wards of U. S. Army Debarkation Hospital No. 5, Grand Central Palace, New York.

# Therapeutics

A DEPARTMENT DEVOTED TO THE IMPROVEMENT OF THERAPY. A FORUM FOR THE DISCUSSION OF THE USE OF DRUGS AND OTHER REMEDIES IN THE TREATMENT OF DISEASE.

## USE AND ABUSE OF CATHARTICS*

(Continued from page 177)

### CALOMEL CATHARSIS

Mild mercurous chlorid is the typical cholagogue cathartic, a term that might be applied to those agents that have a tendency to produce particularly dark or bile-colored bowel evacuations. That certain cathartics, notably calomel, have such action, is a well established clinical observation. Trouble arose when this foundation of fact was left behind and fancy was permitted to assign to these agents a special action on the liver. Nothing seemed more logical than this supposition, though, it appears, nothing is farther from the truth.

It took much investigation and controversy to establish the fact that only a small number of substances increase the secretion of bile and that this does not include any one of the cathartics. The cause of the dark color of the stools following the use of many cathartics is evidently a mechanical one, a more rapid sweeping of the contents out of the intestine, so that there is less time for reabsorption of bile and change in the color of bile pigment. In the case of calomel, to this must be added the fact that grayish-green stools occur even when no bile enters the intestine, owing to the formation of colored mercury compounds, such as sulphid and oxid. A third factor, which also might have something to do with the bile colored purging produced by calomel, is its preservative effect on bile pigment, demonstrable in the test tube, due to inhibition of putrefactive processes responsible for conversion of bile pigment into fecal pigment.

#### MODE OF ACTION

Calomel, being insoluble in the mouth and the stomach, passes through without affecting them in transit. Indeed, one of the chief advantages—as well as disadvantages—of calomel is its inoffensiveness to palate and stomach. It is one of the few purgatives that can be given in spite of nausea and vomiting. At times it stays in the stomach when nothing else will. On the other hand, the ease with which this subtle poison can be given invites its abuse, especially in children.

As soon as the calomel enters the intestine, it is attacked by the alkaline pancreatic and intestinal juices, which decompose it into mercury and yellow mercuric oxid. The latter dissolves slowly and incompletely in the alkaline intestinal fluid. The small quantity of mercuric ions thus liberated excites peristalsis and, at the same time, inhibits absorption of fluid. These effects are so much greater in the small intestine than in the colon that calomel is unreliable as a cathartic. The abnormal amount of fluid in the large intestine may be completely reabsorbed, giving rise to diuresis instead of catharsis, unless this reabsorption is inhibited by a saline purgative. Hence, administration of a saline cathartic in connection with calomel catharsis has come to be an established custom. As calomel acts slowly, requiring from ten to twelve hours, while the salines produce their effect in about two hours, the two agents are usually given with an interval of eight or ten hours between them: generally, the calomel at night, and the saline in the morning.

Unfortunately for its use as a cathartic, some of the calomel becomes absorbed, giving rise to the danger of mercurial poisoning, which is much more influenced by the length of time the mercury stays in the bowel than by the size of the dose: for, when the calomel is promptly swept out of the intestine, it is safe in almost any dose; while a small amount may lead to poisoning, if, by reason of intestinal obstruction or other delay in evacuation, the calomel becomes absorbed to any great extent. Another factor that influences absorption is the presence of solvents. Particularly objectionable is iodid, which, even when taken separately or previously, changes calomel into mercury (metalic) and mercuric iodid and readily dissolves the latter. This change results in a great increase in local irritation—wherever the calomel comes in contact with the iodid—and in greater absorption of mercury. Bromids and alkalis are less obnoxious in conjunction with calomel. Alkali, in the form of sodium bicarbonate, is frequently combined with calomel on the supposition that this increases the efficacy of the latter. The increase in solubility of calomel under the influence of chlorid or hydrochloric acid, under the conditions that prevail in the system, is so slight as to be of no toxicologic importance. An investigation by the A. M. A. Chemical Laboratory[1] showed that the combination of calomel with antipyrin becomes dangerous in the presence of sodium bicarbonate, as, in such a case, from one sixth to one fourth of the calomel may become converted into a soluble mercury salt. The idea that acid drinks, such as lemonade, should be avoided in conjunction with calomel has been shown to be erroneous.

#### CALOMEL POISONING

It is not necessary, in this place, to draw the picture of calomel poisoning. Suffice it to say that this condition affects most especially the two ends of the alimentary tract: the mouth and the colon, and that the kidney is next in order. In the mouth, it produces ulcerative stomatitis, which somehow is connected with the presence of teeth, especially carious teeth. Toothless infants do not develop it. The necrosis starts at the dental margin of the gums and where the teeth are in relation with lips, cheek and tongue. The fact that mercurial stomatitis is characterized by a pathologic condition similar to that of ulcerative stomatitis and Vincent's angina should render calomel contraindicated in the presence of these conditions. If a patient has ever been salivated, calomel should not be used again, for he is liable to show exceptional susceptibility. As mercurial colitis is characterized by a symptomatology and even a pathology much like that of dysentery, one should be cautious, when using calomel in dysentery or enterocolitis, not to confound the symptoms produced by calomel with those of the disease. In these

* This is the fifteenth of a series of articles on the pharmacology, physiology and practical application of the common laxatives and cathartics. The first article appeared October 18.

1. The Incompatibility of Antipyrin, Calomel and Sodium Bicarbonate, J. A. M. A. 56: 287 (Jan. 28) 1911.

conditions, its continued administration should certainly be avoided. As mercury has a great affinity for the kidney, calomel should not be employed, excepting with the utmost precautions, as a cathartic in kidney disease, unless it be in a syphilitic. In certain cases of nephritis, even a small dose of calomel may precipitate uremia.

As calomel is so unreliable a cathartic that it needs be associated with other purgatives to secure its evacuation, as it is liable to act as a poison, and as we have an abundance of satisfactory nontoxic cathartics, the use of calomel as a mere purge is unjustifiable. Of course, in a patient suffering from syphilis it might be the cathartic of choice. It might also be of special value as a purge in the presence of vomiting. Calomel should never be given without other indication than simple constipation. It is absolutely unsuitable for self-medication by the laity.

The main reason for its popular use as a purge is its alleged action as an intestinal antiseptic. That it is not an intestinal disinfectant is generally admitted, nor has its action as an intestinal antiseptic been definitely proved.

### INDICATIONS

As calomel is so inoffensive to the stomach, it is the purgative *par excellence* in the presence of nausea or vomiting, provided one is certain that intestinal obstruction does not exist.

Calomel finds its classical employment in "biliousness," a syndrome that follows indiscretions in diet, whether it be excessive indulgence in food by a healthy person or mere relative excess in an invalid. This condition is characterized by yellowish coated tongue, fetid breath, anorexia, headache, lassitude, subicteric tinge of skin and conjunctivae, and highly colored, scanty urine. But the chief indication for it is believed to be the presence of clay-colored stools, whether there be constipation or diarrhea; and, for reasons given above, it will certainly change the color. Whatever the exact pathology of the condition, free purgation is usually followed almost immediately by amelioration of symptoms; and calomel-saline purgation is believed to be more efficient in this condition than the use of other evacuants. Indeed, its very efficiency is a danger: for it encourages the patient to continue in his overeating, knowing that he can escape the punishment or greatly mitigate it by his dose of calomel. This abuse of the digestive and eliminative organs cannot but lead in time to chronic degenerative changes, insidious in onset but incurable when present. How much better for an individual inclined to "biliousness" to limit his food intake to his digestive capacity than to gorge himself with food only to purge himself of the excess after it has commenced to harm his system. In view of the remarkably slight intestinal irritation produced by a therapeutic dose, calomel is often employed in summer diarrhea and in dysentery. In these conditions, castor oil is preferable, unless coexisting nausea or vomiting renders the administration of the oil impossible. For reasons previously given, it should be used merely as an initial course. Prolonged administration might increase the damage.

Calomel is employed, by many physicians in a routine manner, as the initial purge in acute febrile conditions of all kinds. Experience in such cases, both with and without calomel, does not demonstrate any difference in favor of those patients that had received calomel. One sees, on the other hand, every now and then—fortunately but very rarely—cases of mercurial stomatitis as the result of this practice, most commonly perhaps among patients who have had a succession of different medical advisers and a succession of "initial" doses of calomel. Hence, when one is not the first to be called on the case, it is best to omit the dose of calomel; and it would probably be just as well to omit this dose on the principle of *nil nocere* in other cases likewise.

### ADMINISTRATION

So called "broken dosage" is, at present, the method of choice in the giving of calomel. The advantage claimed for it is a greater effect from a total small dose than could otherwise be obtained, each instalment coming in contact with fresh portions of solvent. At the same time, there is less danger of poisoning if the total dose is retained and absorbed, than if a dose of 0.60 gm. (10 grains) were given. Whether the total dose of from 0.06 to 0.12 gm. (1 to 2 grains) is given in portions of 0.006 gm. (1/10 grain), 0.010 gm. (1/6 grain) or 0.030 gm. (1/2 grain) at intervals of fifteen minutes, thirty minutes or an hour is chiefly a matter of convenience; though, it is claimed that, in the presence of vomiting, the smaller dosage and longer intervals serve best. The rule is sometimes given that the dose of calomel for children should be once or twice as many centigrams (1/6 grain) as the age of the child in years. In practice, however, but little difference usually is made between the dose for the child and the dose for the adult; for, in either case, only that portion of the dose becomes active that is dissolved; and this depends on the amount of alkaline digestive secretion, which is proportionate to the size of the individual. Nevertheless, some such rule as that given prevents the administration of large excess; provided, of course, the adult dose is not exceeded, which will be reached according to the rule at the age of 3 or 6.

Owing to the smallness of the dose and the heaviness of the calomel, a diluent is necessary in prescriptions for calomel powders. Sugar, sugar of milk, or sodium bicarbonate are the usual diluents.

| | | Gm. |
|---|---|---|
| R | Mild mercurous chlorid | 0.06 |
| | Sugar of milk | 0.24 |

Mix and divide into four powders.
Label: One every half hour.

For children, sugar is the preferable diluent. However, the most elegant way of prescribing calomel is in the form of sweet tablets, each containing 0.006 gm. (1/10 grain) and up, which are now marketed by nearly all manufacturing pharmacists.

*(To be continued)*

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**Group Medicine.**—The experience of military service will have rendered thousands of physicians familiar with methods of organization and accustomed them not only to the treatment of individual patients, but to coordination of work with other doctors. The return of these physicians to private life may well be occasion for stimulating the organization of medicine and for helping the institutions in which group medicine is practiced. Members of the medical profession, men who are concerned with public health work, or with the administration of hospitals and dispensaries, should not permit the leadership in developing medical organization to pass out of their hands. Group medicine is a necessary progressive step in the practice of medicine for the public service.—M. M. Davis, *Am. J. Pub. Health* **9**:362, 1919.

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SATURDAY, JANUARY 24, 1920

## SPIROCHETE TRANSMISSION IN RAT-BITE FEVER

The demonstration that dangerous spirochetes may be present in rats and become the etiologic agent in the so-called rat-bite fever of man and animals is only a few years old.[1] Meanwhile the widespread distribution of the micro-organism in various parts of the world, including cities of the United States, has been ascertained by bacteriologic examination of rats caught at random.[2] The current belief is that the spirochetes find their way into the excretory ducts of the salivary glands and the tubules of the kidneys, and that the infection in true rat-bite fever comes through the saliva of the biting rodent. This assumption has been assailed of late, however, by a group of investigators at the Kitasato Institute for Infectious Diseases in Tokyo.[3] According to them, in the infected wild rat, albino rat and guinea-pig, the spirochetes of rat-bite fever, in the early stages of the infection, are detected principally in the blood; but after two weeks a large number appear in the connective tissues, and as time goes on this number is gradually increased. That is, this spirochete is always distributed numerously in the subcutaneous and submucous tissues of the eyelids, lips, bridge of the nose, and tongue, and is especially abundant in the reticular connective tissues of the vascular sinus surrounding the follicle of the tactile hair of the upper eyelids and lips. It is also usually, if not always, found abundantly in the capsules of the salivary and lymph glands, in the heart wall, in the adventitia of the aorta and large arteries within the visceral organs, and sometimes in the endocardium of the heart. It can also be detected in the spleen, the liver, the suprarenal glands, the kidneys, the parenchyma of the salivary and lymph glands, etc. The Japanese investigators assert that the spirochete is neither excreted through the saliva from the salivary glands nor mixed into the saliva through the normal mucous membrane of the mouth cavity from its submucous source. Furthermore, the excretion of the organism in the urine was found to be comparatively rare. The spirochete has never been detected in the intestinal contents of wild rats and guinea-pigs or in the bile of guinea-pigs.

How, then, are we to suppose that the spirochete finds its way into the organism that it attacks? The more recent experiments do not favor the view that this spirochetosis can spread by mere contact, or that its distribution is facilitated by such skin parasites as fleas and lice. Attempts to produce infection by instilling contaminated blood into the eyes of susceptible animals were unsuccessful in securing transmission through the intact conjunctiva; and the undamaged mucous lining of the alimentary tract also appears to be a barrier to the spirochetes introduced by mouth. The few positive infections may be attributed equally well to abrasions of the mucous membranes which permitted an invasion of the tissues.

To explain the exit of the spirochete from its source in the host, if it does not pass out through the saliva, Kusama, Kobayashi and Kasai[3] assert that the infected wild rat, and also the infected guinea-pig, usually become very irritable and furiously bite any objects coming in their way, often suffering an abrasion and even bleeding in the lips or gums. The spirochete is then given an opportunity to escape from the submucous tissue, or the circulating blood, through the defective point in the mouth. It becomes possible, therefore, that the spirochete may be thus transferred by the bite of an infected rat to the body of a healthy rat or even a human being.

1. Futaki, Takaki, Taniguchi and Osumi: J. Exper. Med. **23**: 249 (Feb.) 1916. Ishiwara, Ohtawara and Tamura: Ibid. **25**: 45 (Jan.) 1917.

2. The Cause of Rat-Bite Fever, editorial, J. A. M. A. **65**: 1285 (Oct. 9) 1915; Further Observations on the Cause of Rat-Bite Fever, ibid. **66**: 894 (March 18) 1916; Spirochetes and Rat-Bite Fever, ibid. **68**: 1482 (May 19) 1917; Experimental Rat-Bite Fever, ibid. **69**: 125 (July 14) 1917.

3. Kusama, S.; Kobayashi, R., and Kasai, K.: The Rat-Bite Fever Spirochaete with a Comparative Study of Human, Wild Rat and Field Vole Strains, Kitasato Arch. Exper. Med. **3**: 131 (Oct.) 1919.

## LOW BAROMETRIC PRESSURE AND CHANGES IN CIRCULATION

Mountain climbing and likewise the more easy ascents to mountain heights by the modern alpine railways are not infrequently attended with symptoms of malaise. Experiences of this sort long ago emphasized the fact that high altitudes or low barometric pressure may interfere with the normal workings of the human machine. There was a time not long since when the physiology of altitude had little more than academic interest. The modern conquest of the air by man has brought about a new attitude. As the physiologic experts in military aeronautics have lately pointed out,[1] the purely scientific aspects of life under conditions of low barometric pressure are themselves deserving of careful investigation. The fact that altitude plays a part in therapeutics and forms a feature of climatology, as applied by medicine, furnishes another reason why the subject should be placed on a rational basis, while the coming into prominence of aviation, which requires

1. Manual of Medical Research Laboratory, War Department, Air Service, Division of Military Aeronautics, Washington, 1918, p. 7.

a man to ascend into the air as the bird, frequently to moderate and sometimes to great altitudes, furnishes a third reason why we should know what constitutes fitness for life in rarefied air.

Certain effects of transferring man to high altitudes are already well appreciated. The partial pressure of oxygen decreases as the barometer falls in ascending into the atmosphere. Consequently the eminent French physiologist Paul Bert predicted more than forty years ago that the blood of persons and animals living at high altitudes would be found to have a greater oxygen-carrying capacity than that of corresponding individuals living at lower levels. This prediction has frequently been verified. Thus, the red corpuscles charged with the function of binding and transporting oxygen vary in numbers at sea level between 4.5 and 5.4 millions per cubic millimeter; at Colorado Springs, altitude 6,000 feet, between 5.5 and 6.3 millions; and on Pike's Peak, altitude 14,110 feet, between 6 and 8.2 millions. The percentage of hemoglobin, the compound concerned in the oxygen transport, has simultaneously been shown to increase at Colorado Springs at least 10 per cent. on the average above the content at sea level; while at Pike's Peak an increment of 44 per cent. has frequently been noted. The percentage of oxygen capacity in the blood at sea level varies between 17 and 18.7; at Colorado Springs, 20 and 21.7; and on Pike's Peak, approximately 27.4. In general, for every hundred mm. fall in atmospheric pressure there is an average rise of about 10 per cent. in hemoglobin, and this rise is approximately the same for women and men.

The conventional records have been obtained from observations made after hours or even days of exposure to the effects of high altitude and lowered partial pressures of oxygen in the atmosphere. The aviator makes his transitions with incomparably greater speed. Mountain ascents, even when made passively by railway or motor, are slow—8,000 feet in an hour and a half or longer—as compared with altitude flights in an aeroplane. Can the aviator, who ascends with much greater speed and has already reached heights beyond that of the highest mountains on the globe, benefit from any compensatory physiologic reactions such as have been described? To this question the medical research laboratory of the air service at Mineola, N. Y., has contributed some answer.[2] The blood changes were studied in men subjected to lowered barometric pressures or to low oxygen, 10 per cent., for intervals not exceeding two hours. The changes in a pressure chamber were made at a rate that would be comparable to ascending in the air at the rate of 1,000 feet a minute. The altitudes employed were 425, 395 and 380 mm. of mercury, which are the pressures ordinarily encountered at 15,000, 17,000 and 18,000 feet, respectively. The blood changes were definite in thirty-five trials, or 78 per cent., of all examinations made by Gregg, Lutz and Schneider at Mineola. The majority of the men required between forty and sixty minutes for the increase to become definite; 13 per cent. showed a well defined increase within twenty-six minutes. In the experiments with 10 per cent. oxygen, 57 per cent. gave the increase in hemoglobin. In fifteen cases in which the erythrocytes and hemoglobin were determined, corresponding changes occurred in both; 66 per cent. were positive. The erythrocyte increase ranged between 3.8 and 20 per cent.; the hemoglobin, between 3.2 and 9.8 per cent. These results are not due to barometric pressure per se: they represent the response to lowered oxygen pressure in the environment, however this may happen to arise.

Obviously, under conditions of oxygen shortage, tissues may be better supplied with this element not only by an increase in corpuscles which carry it but likewise by a more efficient circulation. A more rapid blood flow also represents a form of compensatory reaction to the oxygen deficiencies at high altitudes; and it has been observed to occur quite independently of any added physical exertion or other extraneous influences, such as fatigue or cold. In general, it may be said that the heart works at an increased rate in all postures at the high altitude. The amount of increase in the pulse rate varies in different persons. Some men will show at the high altitude, such as 14,000 feet, an acceleration of only a few beats over the low altitude rate, while others show an increase of 10 or more beats per minute. Lutz and Schneider,[3] likewise working at the laboratory of the air service at Mineola, have found that the heart rate responds to slight changes in oxygen tension. The acceleration in the majority of men examined began between oxygen partial pressures of 113 and 128 mm., corresponding to barometric pressures of 542 and 610 mm. In at least 25 per cent. of all cases, the first response occurred at oxygen partial pressures of about 137 mm. or less, corresponding to a barometric pressure of 656 mm. (4,000 feet). The initial response occurred at about the same oxygen tension each time a person was exposed to a decreasing oxygen tension by the several methods used. The systolic blood pressure maintained its normal level in the majority of cases.

It is not easy to understand how compensatory responses in the nature of rapid increments in the number of red corpuscles, whereby the unit volume of blood can carry more oxygen than normally at a given oxygen pressure, occur in such short periods of time as those involved in an hour's flight. It can scarcely be supposed that the cells are created anew thus rapidly in the organism. There is little evidence that the increased number of corpuscles is due solely to an actual concentration of the blood by loss of water. For the present it seems more likely, as Schneider and

2. Gregg, H. W.; Lutz, B. R., and Schneider, E. C.: The Changes in the Content of Hemoglobin and Erythrocytes of the Blood in Man During Short Exposures to Low Oxygen, Am. J. Physiol. **50**: 216 (Nov.) 1919.

3. Lutz, B. R., and Schneider, E. C.: Circulatory Responses to Low Oxygen Tensions, Am. J. Physiol. **50**: 228 (Nov.) 1919.

Havens[4] have suggested, that the "rapid increase is brought about in part by throwing into the systemic circulation a large number of red corpuscles that under ordinary circumstances at low altitudes are sidetracked and inactive, and in part by a concentration resulting from a loss of fluid in the blood."

### THE SAFEGUARD AGAINST BACTERIA IN THE UPPER AIR PASSAGES

It has been assumed, until quite recently, that healthy and intact skin and mucous membranes are practically impenetrable to bacteria that may lodge on them. The mechanical protection offered by the surface covering of the deeper tissues and vessels within them is, however, known to be lost when bruises or contusions destroy the outer layers or otherwise alter their normal continuity. Zinsser[5] has pointed out in this connection that the defense of the intact mucous membranes is by no means unassailable. While many kinds of organisms can be implanted on mucous membranes with impunity, a number of others may cause local inflammations thereon and may, furthermore, pass through them into the deeper tissues and thence into the general circulation. In illustration of this Zinsser states that gonorrhea is ordinarily a disease of implantation on a mucous membrane, and that diphtheria bacilli and streptococci give rise to a localized disease on the pharyngeal and nasal mucosae, the latter germs not infrequently penetrating from the initial point of lodgment on the mucosa into the deeper tissues and the blood stream, causing septicemia or bacteremia. Perhaps local physiologic or functional injury, such as congestion or catarrhal inflammation without demonstrable lesions, is sufficient to permit penetration by micro-organisms.

Latterly the membranes of the pharynx and adjoining regions of the nose and throat have become centers of great interest in the investigation of avenues of entrance for certain bacteria. The upper respiratory tract has been considered not only as a portal of entry but also as a site of persistence for the virus of some of the most serious diseases. Before the real significance and rôle of the mucous membranes there involved can be adequately comprehended, it will be necessary to learn much more than is now known regarding the factors that determine the survival of bacteria in the nasopharynx. An attempt in this direction has recently been reported by Bloomfield[6] from the Medical Clinic at the Johns Hopkins Hospital. Large numbers of an easily recognizable nonpathogenic organism, *Sarcina lutea*, were introduced on the mucous membranes. It was usually impossible, even after a short period of time, to recover the sarcinae swabbed in large amounts on the tongue, nasal mucosa, or into the crypts of the tonsils. Disappearance from the nose was somewhat slower than from the other sites; yet in only one instance could any of the organisms be recovered in twenty-four hours, and in no case after two days. Such findings testify to the tendency to rapid disappearance of the introduced foreign micro-organisms; and as the culture doses were vastly greater than those involved in any natural infection, the results, says Bloomfield, indicate the remarkable efficiency of the mechanism present in the upper air passages for disposing of the organism investigated in his studies.

There is reason to assume that this protective function of the areas involved is not necessarily simple or uniform in character. The possible flushing action of the secretions and the ejection of them in various natural ways from the nose and mouth represent mechanical factors. The possibility of chemical bactericidal action on the part of the secretions is also to be reckoned with. Finally, one must take into consideration biologic modes of resistance, such as phagocytosis or the effect of normal mouth bacteria on the invader. From his initial investigations with the single species mentioned, Bloomfield tentatively attributes the effectiveness in the disposal of the micro-organisms to a prompt and marked bactericidal effect exerted by the saliva and mouth secretions. This seemed to be independent of the bacteria normally present in the saliva. The reaction of the mouth secretions and mechanical cleansing played little if any part. It will be interesting to learn more about the safeguards against more virulent organisms and why they break down or fail in certain cases.

4. Schneider and Havens: Am. J. Physiol. **36**: 380, 1915.
5. Zinsser, H.: Infection and Resistance, New York, 1914, p. 13.
6. Bloomfield, A. L.: The Fate of Bacteria Introduced into the Upper Air Passages, Bull. Johns Hopkins Hosp. **30**: 317 (Nov.) 1919.

## *Current Comment*

### VACCINATION WITHOUT SCAR

An ancient joke relates that a "chorus lady," requiring vaccination, insisted that it be done so that the scar would not show. As a result, she took the virus in a spoon. It now appears that there may be another way of avoiding the scar without resorting to a spoon, viz., by hypodermic injection. During the last four years Major Goodall[1] of the Canadian Army has been experimenting with such a method. After using it on 6,000 soldiers and children he claims these advantages: (1) the absence of an open wound subject to infection; (2) the ability to dispense with dressings; (3) the high percentage of "takes"; (4) the comparative mildness of the local and systemic reactions; (5) the rapidity, and (6) the great ease with which it can be done in children. There were no accidents in his series. One man had a small slough which later healed over without any difficulty, and a few others had badly swollen arms. The advantages of such a method, if perfected and found reliable, are so obvious that it is not surprising that others have experimented with it in the past. Chauveau was probably the first, in 1886-1887, to show that it could be used in animals and in man. He tried

1. Goodall, J. R.: Am. J. M. Sc. **158**: 721 (Nov.) 1919.

it also intravenously. It would seem from the experiments of Kraus and Volk[2] that Goodall might have lessened the severity of his reactions by using one thousandth of the dose. As would be expected, only very small amounts of the virus are needed for the subcutaneous injection. Casagrandi and later Knoepfelmacher showed that enough of the virus passes through a Chamberland candle to permit the use of the filtrate for subcutaneous vaccination. The literature is summed up by Knoepfelmacher,[3] he was not satisfied at that time that the immunity conferred with this method would be as lasting as that with the old. In view of the importance of the suggestion, it is desirable that two questions be settled: first, whether or not the method actually produces an immunity, and second, the permanency of the immunity.

## THE LESIONS OF TYPHUS FEVER

After death from typhus fever there are no constant characteristic lesions visible to the naked eye. The rash may have faded, and the organs, in uncomplicated cases, may show only congestion. It follows that an anatomic diagnosis of typhus fever can be made only on the basis of microscopic studies, if at all. Recent investigations summarized by Nicol[4] and extended by him through the systematic microscopic examination of material from a large number of cases of typhus fever in which death occurred in all stages of the disease, have shown definitely that typhus exanthematicus is to be regarded as a systemic disease of the smaller arteries and the capillaries. There are necrosis and proliferation of the endothelium, associated with perivascular infiltration of leukocytes and other cells, especially in the skin and the central nervous system, and, to a less degree, the myocardium and practically all the other organs. The medulla, particularly about the olivary bodies, seems to be a favorite seat for this process, which sometimes may pass into a hemorrhagic encephalitis. Usually these characteristic arteriolitic and periarteriolitic foci disappear if the patient survives, but small scars may result. The localization of the changes in the medulla and upper part of the cord would seem to explain such symptoms as disturbances of deglutition, respiration and circulation, and no doubt death often results from lesions in the central nervous system; in cases of sudden death, lesions of the myocardium may be the cause. In about half of the cases complications, chiefly pneumonia, appear to determine the fatal outcome. Of the secondary invaders, streptococci are the most important. The demonstration of a widespread, focal arteriolitis and periarteriolitis in typhus fever is of great interest and value not only because it gives a better insight into the nature of the disease and the causation of the symptoms but also in that it provides new and important means for recognition of the disease in isolated or obscure cases referred to the pathologist for diagnosis by postmortem examination. We know that typhus may occur in cities like New York; and in cases of death from what seems to be acute infection without any definite gross lesions, a thorough microscopic examination, with the vascular lesions of typhus in mind, would seem to be highly desirable.

2. Kraus and Volk: Wien. klin Wchnschr. **19**: 620, 1906.
3. Knoepfelmacher, W.: Handbuch der Technik und Methodik der Immunitätsforschung. Jena **1**: 682, 1908.
4. Abstr. Norsk Mag. f. Lægevidensk. **80**: 1359, 1919.

## AMERICAN JOURNAL OF THE MEDICAL SCIENCES—ITS CENTENNIAL

One hundred years have passed since the appearance of the first number of the *American Journal of the Medical Sciences*. Like the centenarians whose pictures appear in the daily press it is still going strong, with eyesight undimmed and digestion unimpaired. When interviewed as to the causes responsible for its long life it responded:

> The *Journal* has been instrumental in molding medical thought not only here but also abroad, for being, with one exception, the oldest medical periodical in the English language it has been able to play a leading rôle in bringing before the profession of other lands the medical contributions of this country. Those who today guide the destinies of the *American Journal* are keenly aware of the heritage that is theirs and the responsibilities that it entails. It will ever be their earnest endeavor to maintain the high ideals in medical journalism for which this publication has so long been conspicuous. . . . They aim to make the *Journal* of the future the same honest, scientific, helpful periodical that it has been in the past.

We congratulate this centenarian on its high ideals and its enviable record: It has recorded the achievements of a century of American medicine — something certainly to be proud of.

## DIAGNOSTIC VALUE OF EXAMINATION OF THE SPINAL FLUID

Since Quincke first introduced lumbar puncture, a very considerable development has taken place in the methods of examining the cerebrospinal fluid obtained by this procedure. At present, as Solomon[1] points out, there are five methods of examination in common use. These are the Wassermann reaction, tests for an increase in albumin, tests for globulin, the colloidal gold test of Lange, and the cell count. As these different tests have been developed there has always been a tendency on the part of their discoverers to herald them as more or less specific in character. Since the opening of the Psychopathic Hospital in Boston, a large series of spinal fluids have been examined by these different tests, and Solomon's article summarizes the results of this experience. There are two main conclusions to be drawn from his work: first, that the Wassermann reaction in spinal fluid is pathognomonic of neurosyphilis, although it may occasionally be absent in such cases; and second, that the other tests mentioned are not pathognomonic tests but are indicative merely of some inflammatory process involving the central nervous system. The analysis of the results obtained at the Psychopathic Hospital makes it clear that, with the exception of the Wassermann reaction, none of these tests, either singly or in combination, are characteristic of any one disease. It does not seem to matter whether the process is a meningitis, an encephalitis, a tumor with sympathetic meningitis,

1. Solomon, H. C.: Nonconcomitance of Spinal Fluid Tests, Arch. Neurol. & Psychiat. **3**: 49 (Jan.) 1919.

inflammation following a vascular insult or a trauma, or a disease like multiple sclerosis. The result, so far as the changes in the spinal fluid are concerned, is essentially the same, namely, one or a combination of the reactions mentioned is produced. In one case, only pleocytosis may be present; in another case, the colloidal gold reaction may be positive and the other tests negative; in still other cases, combinations of these reactions occur. The examination of the spinal fluid is of such great value as a diagnostic aid that it is important that its limitations should be recognized. As Solomon points out, no spinal fluid can be said to be negative unless all of these different tests have been carried out. It is to be anticipated that further refinements in the examination of the spinal fluid will be developed; but it would seem from these studies that at the present time we can deduce from the examinations mentioned that a patient is suffering either from neurosyphilis or from some other inflammatory condition of the cerebrospinal system. In cases in which added elements like bacteria are present, the specific cause of the inflammation can frequently be detected; and this is true not only of acute infections but also of a large proportion of cases of tuberculous meningitis.

### THE DIET IN PREGNANCY

In 1889, Prochownik recommended a "dietary for the purpose of avoiding the necessity of premature labor." He concluded that it is possible, through dieting the mother, to limit the weight of the child, and even retard the ossification of its bones. Unfortunately, his statements never seem to have been adequately confirmed. Recently Ehrenfest[1] analyzed the original paper of Prochownik. As a result, he believes that the author selected his cases in such a way that an especially favorable impression is produced. A survey of obstetric literature since Prochownik's original publication indicates that his views have received considerable attention, but the discussions are either quite neutral, or else the authors condemn Prochownik's views unqualifiedly. The few animal experiments available also offer no good evidence for the limited dietary. From the biologic point of view, present conceptions are that the fertilized ovum is an individual organism controlled by the placenta, an organ endowed with an active vitalistic function securing the substance essential for the development of the fetus from the maternal organism. It is also pointed out that the size of the fetus, including its general skeletal development, weight and length combined, is of more importance in the mechanism of birth than merely the weight alone. As a result of analysis from all these points of view, Ehrenfest concludes that the pregnant woman should not be permitted to eat to excess by responding, without restrictions, to the increased food desire created by the food demands of the fetus. It is his belief, however, that pregnancy causes an increased demand for food, which should be given in the form of nutritious, easily digestible substances. In the Prochownik diet, proteins are substituted for carbohydrates, and the water intake is greatly reduced. Obviously, such a diet must be very carefully controlled and supervised, since it may actually be responsible for toxemic conditions, far more serious than any increased weight of the fetus. The adoption of routine treatments on the basis of *a priori* reasoning alone is not scientific medical practice. The question is one capable of easy proof by scientific research in any good hospital.

1. Ehrenfest: Diet of the Mother During Pregnancy, Am. J. Obst. **80**: 441 (Oct.) 1919.

## *Association News*

### THE NEW ORLEANS SESSION

#### New Orleans and the American Medical Association

The *New Orleans Medical and Surgical Journal*, in its current issue, contains an editorial on the coming annual session of the American Medical Association, to be held in New Orleans, April 26 to 30. It says:

"Many remember New Orleans at the time of the 1903 meeting. The glamor of a Latin city, rough jeweled by modern civilization, set apart among the traditions of a people, still mourning its chapters of sad experiences of most a century and hard to rouse. The spirit of hospitality still alive, and ready to welcome, found a Crescent City full of kindness to those who traveled far to see and sense the Old Metropolis of the South.

"Our streets were none too clean; our hotels old fashioned and limited in number; our water supply of uninviting, muddy purity; our sewage still undisposed of in any sanitary fashion, and the vista of pleasant residences marred by unsightly cisterns, on which many households still relied for their potable and ablutionary water.

"Since 1903, yellow fever, plague and disastrous storm have visited New Orleans, and at last the fighting spirit of its people has been aroused.

"It will be a new New Orleans in 1920. To those who knew us of old, there will still be the landmarks where culinary feasts may satisfy epicurean appetites. The old French quarter still preserves its architecture and its traditions. The varying patois, argot, gombo and creole French may be heard, mingled with the Italian, which has easily been grafted in the quarter. The sightseers may still find the most of the sites of old New Orleans history, which has been much aided by the Historical Society, now exhibiting in the old Spanish Cabildo at Jackson Square.

"But leave the sentimental region and traverse the main streets of newer New Orleans and see how all has changed in these few years.

"A 'stroll on Canal Street' is a thing of the past—there is the same hurry and bustle as on State Street, or Chestnut Street, or Fifth Avenue, or Charles Street, in our Northern sister cities. Great buildings have risen, banks have stepped into the air; hotels have multiplied, streets have been paved; the sewage has been controlled; the drainage settled; and the faucet at the bath, or at the font, brings crystal water as sweet and alive as from a perpetual spring, furnished by our great Mississippi, which still rolls by and as ever fondly embraces our old and new city in its crescent fold."

**Medicated Alcohol.**—Pharmacists who hold a permit and have given bond are allowed to medicate alcohol and sell it for nonbeverage purposes in quantities not exceeding one pint, provided they first medicate it in accordance with any one of nine formulas specified by the commissioner of internal revenue, U. S. Treasury Department. Phenol, liquor formaldehydi and mercuric chlorid are the chief of these denaturing agents. The container of such medicated alcohol must bear a "poison" label. The sale by pharmacists of medicated alcohol for industrial purposes is prohibited. It is sold chiefly for rubbing purposes.—*Illinois Health News*, October, 1919.

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPIALS, EDUCATION, PUBLIC HEALTH, ETC.)

## ILLINOIS

**Smallpox in East Moline.**—The health authorities, January 12, unearthed a flagrant violation of health rules in East Moline, where six out of a family of eight were found to be suffering from smallpox without a physician in attendance.

**Personal.**—Dr. O. Alfred Olson, Rockford, is reported to have been arrested in a raid on communists in Rockford, January 8.——A committee of the Oak Park Physicians' Club, consisting of Drs. Arthur M. Corwin, Harry J. Stewart, Leslie W. Beebe, and Clarence E. Hemingway, January 15, cleared Dr. Thomas E. Roberts of charges that he had received remuneration for services as director of the American Red Cross Bureau in Oak Park.

**Hospital Items.**—Improvements costing about $700,000 are being made at St. John's Hospital Farm, near Riverton. The next building to be erected will be for crippled children. Other structures included in the plans are a home for mentally deficient girls, a hospital for those suffering from nervous diseases and a building to be used for convalescents coming from St. John's Hospital in Springfield.——Additional buildings which have been begun at the Alton State Hospital will represent an investment of $500,000 and will increase the capacity of the institution from 700 to 1,300.

**Influenza.**—Influenza is reported pandemic. The disease is of relatively mild type and few deaths are being recorded. ——At the United States Naval Training Station, Great Lakes, an order was issued January 14, prohibiting gatherings in buildings and barracks, and forbidding visitors. Up to noon, January 19, 578 cases of influenza had been reported, with fifty cases of pneumonia, and three deaths.——In Chicago influenza is said to be spreading at the rate of 1,000 new cases a day. Up to January 20, 4,095 cases had been reported, with thirty-three deaths, and 891 cases of pneumonia, with 159 deaths.——Hospitals are so overcrowded that operations with the exception of emergency operations are not to be performed during this crisis.——Health Commissioner Robertson has appointed a commission of pathologists to act with the department of health in this emergency, consisting of Drs. Ludvig Hektoen, Robert Zeit, W. Henry Wilson, Arthur I Kendall, David J. Davis, Edward O. Jordan, William A. Evans and C. St. Clair Drake.——There is a shortage of trained nurses, but the health commissioner believes that this condition will be alleviated if the recent graduates of the courses in home and public health nursing will accept positions.

### Chicago

**Sanitary District Health Activities.**—At a meeting of the stock yards branch of the Chicago Medical Society, January 15, the activities of the sanitary district as a function in the health of Chicago were discussed by Dr. Willis O. Nance, president of the sanitary district.

**China as a Field for American Activities.**—The possibility of China as a field for American commerce, finance and industry were set forth in an illustrated lecture by Dr. E. H. Hume, head of the medical department of Yale-In-China, an institution maintained at Changena, at a banquet of the Yale Club of Chicago, January 10.

**New Officers.**—At the twenty-eighth annual meeting of the Chicago Ophthalmological Society, held in Chicago, January 19, the following officers were elected: president, Dr. Alfred N. Murray, Chicago; vice president, Dr. William R. Fringer, Rockford; secretary, Dr. Francis Lane, Chicago, and councilor, Dr. Ephraim K. Findley, Chicago.

**Medical History of the War.**—Three Chicago physicians are playing an important part in the preparation of the medical history of the world war. These are Drs. Casey A. Wood, Frank Billings and Harry E. Mock. The history will comprise about twenty volumes, will be encyclopedic in character, and it is promised, will be promptly issued. The first volume, which has to deal with the hospitals of the United States, was written by Dr. Wood, is now completed and is ready for press. Drs. Mock and Billings are preparing the history of reconstruction dealing with the rehabilitation of disabled soldiers.

**Hospital Asks Millions of Dollars.**—At a meeting, January 17, a five-year program of expansion for the Wesley Memorial Hospital became assured. This involves the addition of $10,000,000 worth of new buildings and the raising of an endowment fund of from $10,000,000 to $15,000,000. Sufficient funds have already been pledged to insure construction of the first of the four news buildings desired, which will be utilized as an addition to the nurses home. The second building will be a new section to the hospital proper which will add 1,200 beds to its capacity, a building for contagious diseases will next be erected and lastly a new power plant.

**Banquet for Dr. Wood.**—Dr. Casey A. Wood, the well known ophthalmologist of Chicago, has decided to retire from the practice of his specialty. The Chicago Ophthalmological Society gave a reception and banquet in honor of Dr. Wood on the occasion of its twenty-eighth annual meeting, January 19, at the Hotel LaSalle. Dr. William L. Noble presided as toastmaster, and the following responses to toasts were made: "Dr. Wood as the Ophthalmologist," by Dr. Lucien Howe, Buffalo; "Dr. Wood as Writer and Editor," by Fielding H. Garrison, Lieut.-Col., M. C., U. S. Army; "Dr. Wood as Professor of Ophthalmology," by Dr. Harold Gifford, Omaha; "Dr. Wood as Military Surgeon," by Dr. Walter P. Parker, Detroit; "Dr. Wood as Ornithologist and Comparative Anatomist," by Prof. Henry B. Ward of the University of Illinois.' Brig.-Gen. H. S. Birkett, Montreal, dean of the Medical Faculty of McGill University, brought greetings from that institution. The society voted to confer honorary membership on Dr. Wood and the certificate was formally presented by Dr. Willis O. Nance. Dr. Heman H. Brown then presented Dr. Wood with a richly bound book containing the autographs of all persons present at the banquet. Dr. Wood left for his new home in Palo Alto, Calif, January 20, and expects to devote his energies to researches in comparative anatomy, working along special lines.——On January 17, the Society of Medical History was addressed by Col. Casey A. Wood on the subject "William Bailey, Author of the First Ophthalmic Treatise in English"; by Fielding H. Garrison, Lieut.-Col., M. C., U. S. Army, on "Medical Men and Music," and some remarks on the medical history of the war.

**The Narcotic Problem.**—At the monthly meeting of the council of the Chicago Medical Society, January 14, the committee on the narcotic problem, consisting of Drs. Joseph L. Miller, Whalen, Betz, Sceleth, Fowler and I. C. Gary, reported that the federal government, in the enactment of the Harrison Narcotic Law, had made no provision for handling the problems arising from its enforcement. Although a project is under consideration for delegating to the United States Public Health Service the institutional treatment and care of addicts, no appropriation has been made for this purpose, and therefore the state, muncipality, or the physicians of the city must handle this exceedingly difficult problem. Apparently very few municipalities have made any effort to meet the situation, and in the few that have undertaken it the effort has not been rewarded by a high degree of success. Under the law only two classes of addicts may be prescribed for, excepting in the course of a bona fide reduction cure. Persons suffering from an incurable disease such as cancer or tuberculosis may be given prescriptions by the physician directly in charge, for a sufficient amount of the drug for their immediate use, and "addicts suffering from senility or the infirmities attendant upon old age" may only be given the "minimum amount of narcotic in order to sustain life." Addiction is not recognized as an incurable disease. The chief problem, therefore, is handling the addict who does not come under these two classes. The law, as construed by the supreme court, holds it a crime for any one to furnish an addict with a narcotic merely to satisfy his craving for the drug. The only circumstances in which such a person may be given a narcotic is in the course of a reduction cure, and this should be carried out in an institution. Addicts, when the drug is withdrawn, fall into the sick class and should be handled as are other indigent sick individuals. The committee had conferred with the authorities of the Cook County Hospital to determine whether or not they were willing to resume the responsibility of caring for these indigent sick. They consented to undertake the work, and will establish a dispensary at the hospital to which all patients may be referred. After the patient has been restored to apparently good health, the social service department of the hospital will attempt to secure him a position

and to exercise such friendly care as is deemed advisable. The addict, not of the first or second class, who refuses to enter a hospital would be denied a prescription as is required by law. This plan then, leaves unsolved the problem of this class of addicts. A member of the committee has conferred with the secretary of the police force, who informed him that warrants could be issued for this group of addicts on the basis of disorderly conduct or vagrancy, and they could then be confined in the Bridewell where a cure could be given, and with Judge Olson who willingly offered the cooperation of the courts in carrying out this measure. The Internal Revenue Bureau has expressed its willingness to furnish an official to supervise the work. Under this agreement the county hospital will classify and act as a clearing house for all addicts and treat those who can be induced to take the cure. The committee recommended that the council of the Chicago Medical Society accept the offer of the Cook County Hospital, that a committee of the society be appointed to assist the hospital in carrying out the measure and that the Internal Revenue Bureau, Judge Olson, the superintendent of the hospital, and chief of police each be furnished with a copy of the plan. The council, on motion, concurred in the recommendations of the committee which was continued.

## INDIANA

**Medical Board Officers.**—The state board of medical registration and examination at its meeting, January 13, elected Dr. James M. Dinnen, Fort Wayne, president; Dr. William A. Spurgeon, Muncie, vice president; Dr. William T. Gott, Crawfordsville, secretary, and Dr. Moses S. Canfield, Frankfort, treasurer.

**New Officers.**—At the annual meeting of the Indianapolis Medical Society, January 6, the following officers were elected: president, Dr. James H. Taylor; vice presidents, Drs. Maxwell A. Bahr and Robert E. Repass, and secretary-treasurer, Dr. Leslie H. Maxwell. The retiring president, Dr. Charles F. Neu, in his address urged that the society open headquarters in a home of its own, and the new president said that some action will be taken this year in this regard.

**Personal.**—Edgar C. Loehr, Noblesville, is seriously ill at St. Vincent's Hospital.——Dr. Aldine E. Morgan, for the last three years at the head of the Indiana State Soldiers Home, Lafayette, has resigned to accept a similar position in the Marion Branch, National Soldiers Home.——Dr. George S. Bliss, superintendent of the Indiana School for Feebleminded Youth, Fort Wayne, has resigned.——Dr. Martin L. Arthur, Patoka, has been appointed physician of Gibson County, succeeding Dr. Amos H. Rhodes, Princeton, resigned.——Dr. Hugh J. White, Hammond, has been appointed deputy coroner of Lake County.

## MARYLAND

**Personal.**—Dr. John M. T. Finney, associate professor of surgery in the Johns Hopkins Medical School, has been invited to accept the chair of surgery at Harvard University, his alma mater, and has left for Boston to meet the directors of Harvard University.

**Fund Complete.**—Announcement has recently been made that the fund of $15,000 to complete the payment on the Medical and Chirurgical Faculty building, has been raised. This fund was started last summer by Sir William Osler, who sent a check of $1,000, expressing the hope that the sum would be raised before Christmas. The fund was completed Christmas eve.

**Data Lost in Fire at the Johns Hopkins.**—Valuable data and records, covering two years' research in the cause and effect of influenza, made by Dr. Thomas M. Rivers, an authority on this disease, and the laboratories of Dr. Bayne Jones and Dr. Lloyd D. Felton, containing apparatus and data of inestimable value, were destroyed in the fire which recently broke out on the top floor of the pathologic building in the Johns Hopkins Hospital group. The researches of these three physicians cannot be replaced in months.

**Improvements at Johns Hopkins Hospital.**—The work of repairing the pathologic building of Johns Hopkins Hospital, which was partially destroyed by fire recently, will be begun at once. Most of the damage done to the building was confined to the top floor. In addition to improving the pathologic building, the one-story structure used as a free dispensary, which has been inadequate, will be replaced by a modern structure, in keeping with the other buildings on the grounds. Plans have been prepared for the erection of a five-story dispensary on the same site, and the building will be erected within a short time.

**Report of Fort McHenry Hospital (U. S. Army General Hospital No. 2).**—This army hospital reached its full maturity in 1919. From Jan. 1 to Dec. 1, 1919, there were admitted to the post, 14,277 patients, of whom 13,048 have since been discharged or removed. There were 3,285 surgical operations during the year and all but eighteen patients passed through successfully. In July there were 419 operations and no deaths, and in March, 418 operations and only one death. It has cost approximately $3,000,000 to maintain the hospital during the year.

**Psychiatric Ward at Marine Hospital.**—A special ward for the treatment of patients suffering from war neuroses and mental disorders has been instituted at the Marine Hospital, Baltimore. Treatment is given to discharged members of the army, navy and marine corps under charge of the United States Public Health Service. The hospital covers District No. 4, comprising Maryland, Virginia and West Virginia. Asst. Surg. Henry E. St. Antoine has been placed in charge of the work and at present has about twenty-five patients in his care.

**Dental Clinics in Schools.**—Health Commissioner C. Hampson Jones has taken the first steps toward establishing municipal dental clinics in public schools in Baltimore. The work has been made possible through an appropriation of $5,000 provided in the 1920 budget by the board of estimates. The first move will be the rehabilitation of two volunteer clinics conducted previous to January 1, by students of local dental colleges, under the supervision of Drs. B. Merrill Hopkinson and B. Holly Smith of the oral hygiene council. Five clinics, including the two already established, will probably be conducted this year, under the supervision of the health commissioner, by young dentists who may receive pay for the work. Should five clinics be established, one of them will be for colored pupils and under supervision of colored physicians.

**Social Service Department at Mercy Hospital.**—A new social service department was opened at the Mercy Hospital, Baltimore, January 15, under the auspices of the National Catholic War Council, whose name it will bear. This department, with headquarters at the dispensary in Mercy Hospital, will see that the poor sick of the city are given every attention, either at the hospital or in their homes. Ex-service men who are in need of medical treatment will be especially welcomed. Every day from 11 a. m. to 2 p. m. all persons suffering from the ordinary diseases will be treated; from 1 to 2 p. m. daily there will be clinics for those suffering from eye, ear, nose and throat trouble or from children's diseases. On Tuesday, Thursday and Saturday, from 1 to 2, persons suffering from skin diseases will be treated. At the same hour on Monday and Friday afternoons, orthopedic patients will be treated. The nurses in charge will not only attend to those at the dispensary but will also visit the homes of the sick. In cases where children become orphans or cannot be cared for properly by relatives, they will be given medical attention at Mercy Hospital, before being admitted to institutions. Poor persons who are bed patients at the hospital will be visited at their homes after dismissal from the hospital by nurses, who will see that they are kept in good health. Special features of the dispensary are clinical laboratories and a roentgen-ray department. All persons admitted to this department will be treated free.

## MASSACHUSETTS

**Flattery Medal.**—A bronze bas-relief medal given by Maurice Douglas Flattery to Harvard University in 1918, has just been received by the university authorities and will be awarded later "to the person the President and Fellows of Harvard may adjudge to have made a discovery in any branch of science that would result in the greatest good to humanity in the prevention of disease or conservation of health in the broadest sense." The gift is one of a series made by Mr. Flattery, and is based on securities valued at $7,500, the income from which is to be utilized for the annual award of a medal and $500 in cash.

## MISSISSIPPI

**Hospital Opened.**—A thoroughly equipped hospital has been opened at Water Valley by Drs. Leonidas S. and George A. Brown, Water Valley.

**Hospital Site.**—The Mississippi Methodist Conference Hospital will be located at Hattiesburg, according to a

decision of the commission which had the duty of choosing between several towns that were competing for the location of the hospital.

**Personal.**—Dr. M. P. Winkler, Schula, has been appointed physician for the Belmont State Farm in Holmes County.——Dr. Clyde R. Stingily has succeeded Dr. T. R. Wilson as director of the state hygienic laboratory. Dr. Stingily had previously been connected with the laboratory for twelve years.

**Public Health Association Meeting.**—At the annual meeting of the Public Health Association held in Jackson, Dr. William H. Frizzell, Brookhaven, was elected president, and Drs. Thomas E. Hewitt, Liberty, Amite County, Paul G. Pope, Gulfport, and F. J. Underwood, Monroe, were elected vice presidents.

**Epidemic Diseases.**—Dr. C. L. Williams reports that he is investigating the outbreak of dengue fever at Woodville and is satisfied that the disease was brought there by a woman visitor from Porto Rico.——Dr. W. S. Leathers has sent C. M. Ship, state investigator, to Crowder to combat a smallpox epidemic.

**Hygiene Department Established.**—There has recently been organized at the University of Mississippi a department of hygiene under the auspices of the Interdepartmental Social Hygiene Board, Washington, D. C., and Dr. Elise McLaurin Rutledge, Memphis, Tenn., has been placed in charge of this department.

**Support Compulsory Physical Education.**—Dr. J. W. Provine, Clinton, president of Mississippi College; Dr. D. C. Hull, Meridian, formerly head of the Millsaps College, and Dr. Zeno Wall, Clinton, and other prominent citizens of Mississippi have accepted membership on the Mississippi Physical Examination Committee which is conducting a campaign to obtain the compulsory physical education legislation as approved by the state department of education.

**New Officers.**—The secretary of the Homochitto Valley Medical Society informs us of an error in the statement which appeared on page 1536 of THE JOURNAL, Nov. 15, 1919, in which Franklin County was omitted from the societies which make up the Homochitto Valley Medical Society. The vice presidents for these counties are: for Adams County, Dr. John W. D. Dicks, Natchez; for Amite County, Dr. Hiram K. Butler, Liberty; for Franklin County, Dr. Charles E. Mullens; for Jefferson County, Dr. George M. Barnes, Red Lick, and for Wilkinson County, Dr. Charles E. Catchings, Woodville. Dr. J. N. Ullman is secretary-treasurer of the society.——At the meeting of the Harrison-Stone County Medical Society at Gulfport, December 9, the following officers were elected: president, Dr. Edward C. Parker; vice presidents, Drs. Charles A. Sheeley, Gulfport, and George A. McHenry, McHenry, and secretary-treasurer, Dr. Daniel J. Williams, Gulfport.——At the meeting of the Jones County Medical Association held at the South Mississippi Charity Hospital, Ellisville, in December, Dr. Willie N. Blount was elected president; Dr. Ellison H. Williamson, Soso, vice president, and Dr. John R. Kittrell, Laurel, secretary-treasurer.——Washington County Medical Society at its meeting in Greenville, January 9, elected Dr. E. G. Martin, Benoit, president, and Dr. Woodson A. Stevens, Greenville, vice president.

## MISSOURI

**Smallpox in St. Joseph.**—January 6, eleven cases of smallpox were reported in St. Joseph, making the total number more than fifty.

**New Officers.**—At the annual meeting of the Buchanan County Medical Society at St. Joseph, the following officers were elected: president, Dr. Louis G. Dandurant; vice presidents, Drs. Harry S. Conrad and Thomas M. Paul; secretary, Dr. Francis X. Hartigan, and treasurer, Dr. John M. Bell, all of St. Joseph.

**Physicians' Building.**—A fourteen-story building is to be erected at Eleventh and Cherry streets, Kansas City, to be used entirely by physicians and dentists. The building will cost about $1,250,000 and the project is said to be supported by the Jackson County Medical Society and Kansas City Dental Society.

**New County Hospital.**—The county court has called for an election in February on a proposition to issue additional bonds to the amount of $57,500 for the new county hospital that is to be erected in Fulton. The first bond issue of $75,000 carried by a large majority but it was found that this was not sufficient to complete the building.

**Personal.**—Dr. Major G. Seelig has been appointed professor of clinical surgery in the School of Medicine of Washington University, St. Louis.——Dr. H. T. Barnes, Nelson, has been appointed superintendent of the Confederate Home, Higginsville.——Dr. Joseph J. Bansback has been appointed director of the venereal disease clinic of St. Joseph.

**Influenza or Winter Cholera.**—A condition which has been called winter cholera has been prevalent in children of Kansas City for more than a month. The dominant symptoms are acute indigestion, attended by nausea and diarrhea. No report has been made thus far of the seriousness of the disease. Its appearance at about the same time that influenza is prevalent in other parts of the country suggests the possibility that the condition is the intestinal form of influenza.

**Health Survey and Demonstration.**—The United States Public Health Service has undertaken health surveys and demonstrations in several localities of the state whereby it is hoped to establish standards for child work in the school and home. The study will be confined to those communities which afford the best prospects of putting the work on a permanent self-sustaining basis. Dr. Carlisle P. Knight, U. S. P. H. S., is in charge, assisted by Dr. Lydia A. De Vilbiss. The state board of health, American Red Cross, Missouri Tuberculosis Association, boards of education, women's organizations and city officials are cooperating in this work and the staff is made up of specialists in the different branches of medicine, nurses, field workers and clerks. The purpose is to conduct a comprehensive field investigation and demonstration in child hygiene along modern, scientific lines. In addition to this it is planned to organize a division of child hygiene within the state board of health and to assist and encourage local child hygiene activities. As a first step, agents of the Public Health Service will make a house-to-house canvass in the localities selected, and physicians and public health nurses will make visits where there are children of preschool age. Birth registration will be stimulated, prenatal supervision will be provided whenever possible or desired, and a modern health crusade will be conducted in the schools by teachers, nurses and physicians with the active cooperation of the state tuberculosis association. Schoolchildren will be examined and where necessary, suitable treatment will be recommended. Each community will be asked to make the work permanent, particularly that part of the work which provides for a full-time health officer in each community, and for the regular examination and treatment of the children.

## NEW YORK

**Personal.**—Dr. Malcolm F. Lent, formerly medical director of Stony Wold Sanatorium, Lake Kushaqua, has been appointed supervisor of tuberculosis of the state department of health.——Dr. Herman M. Biggs, state commissioner of health, was reappointed by the governor for a term of six years, January 12, and the appointment was unanimously confirmed by the senate on the same day.——Drs. Thomas M. Holmes, Delmar, and James H. Mitchell, Jr., Cohoes, have been appointed coroner's physicians of Albany County succeeding Drs. Charles E. Bailey and James E. McDonald.

**Public Water Supplies.**—In an investigation made by the state department of health of the sanitary quality of the public water supply of Syracuse the question arose as to the elimination of tastes and odors due to algae growths. It has been suggested that copper sulphate be applied at the upper end of the twenty-mile conduit followed by aeration at the distributing reservoir.——Chlorination plants have recently been installed for the treatment of public water supplies at Gloversville, Gouverneur, Saratoga Springs and Sulphur Creek.——The board of water officials is considering the installation of a coagulation and sedimentation basin to be operated under pressure in connection with the pressure mechanical filters now in use at Cobleskill.

### New York City

**Influenza Cases Increase.**—The records of the health department show that for the period from January 12 to January 16, inclusive, there were 291 new cases of influenza reported as against 97 in the preceding week.

**Drug Trafficker Gets Prison Sentence.**—Dr. M. A. de Preta, who was convicted of writing 50,000 prescriptions for narcotic drugs for drug addicts, was sentenced by the federal court to four years imprisonment at Atlanta. Dr. de Preta was released on $20,000 bail pending an appeal which was entered.

**New Hospital Building.**—The Hospital for Deformities and Joint Diseases has purchased four parcels of real estate adjoining its present holdings. The new purchase forms a portion of the site on which a new $1,000,000 building is to be erected for the hospital.

**Personal.**—Dr. Hideyo Noguchi of the Rockefeller Institute for Medical Research has gone to Progreso, Mexico, and will then proceed to Merida, to carry on confirmatory studies of *Leptospira icteroides*, and to test on a larger scale the curative properties of his specific serum.

**Society of Medical Jurisprudence Opposes Health Insurance.**—At the 306th regular meeting the New York Society of Medical Jurisprudence the subject of compulsory health insurance was discussed from the legal and medical standpoints by the outgoing and incoming presidents of the society. The society went on record as opposing compulsory health insurance.

**Vacancies in Montefiore Staff.**—The medical director of Montefiore Home and Hospital for Chronic Diseases, Gun Hill Road (East 210th Street), announces that there will be vacancies on the resident medical staff. Applications in writing may be addressed to Dr. Sigfried Wacksmann, medical director of the hospital, or applicants present themselves in person between 10 a. m. and 12 m. daily.

**Great Demand for Nurses.**—The annual meeting of the directors of the Henry Street Settlement was held at the Cosmopolitan Club on the evening of January 7. It was shown that the demand for nurses was constantly increasing in all boroughs, and had never been greater than at present except during the influenza epidemic. The institution has trained 176 nurses for public health service including graduate and undergraduate students.

**Proper Feeding of Undernourished Children.**—The Bowling Green Neighborhood Association, organized five years ago for improving health, living, and recreation conditions in the Bowling Green district, has established an experimental restaurant where it serves three meals a day to needy children to bring about the proper feeding of undernourished children. This is part of an experiment in a six months' campaign to instruct parents in the proper feeding of children.

**Rockefeller Aid to Canadian Medical Schools.**—In response to many inquiries regarding the distribution of a portion of John D. Rockefeller's gift to medical education, Dr. George E. Vincent, President of the Rockefeller Foundation, has issued a statement explaining that no definite policy would be adopted regarding the disbursement of the fund until after conferences were held with a large number of Canadians representing all the important institutional and geographic interests of the Dominion.

**Schick Test for Children Entering School.**—The health department has made arrangements whereby children entering school for the first time in February next will receive circulars relative to the value of the Schick test. Parents will be urged to have this test performed either by the family physician or by the school medical inspectors. The bureau of laboratories of the department of health is instructing the medical inspectors of the bureau of child hygiene in the technic of making these tests.

**Rockefeller Foundation Buys Plot.**—The Rockefeller Foundation has purchased a plot of ground, approximately 500 by 200 feet, between Sixty-Seventh and Sixty-Eighth streets, just north of the site of the hospital of the Rockefeller Institute of Medical Research. The property was formerly owned by the Presbyterian Hospital, and is assessed at $100,000. While no definite statement has been made as to the use to which this acquisition is to be put, it is believed that it is to provide for a considerable extension of the institution's work.

**Health Department Orders Study of Measles.**—Because of the increase in the number of cases of measles in this city Dr. Copeland, health commissioner, has sent a letter to the division of laboratories, of which Dr. William H. Park is director, asking that a serious study of the disease be undertaken at once. During the ten days preceding January 12, 2,221 cases were reported to the health department; while at the present time from 200 to 300 cases are reported daily, Dr. Copeland states that the appearance of such a large number of cases at this time is unexpected as the disease is usually at its maximum in May.

**Prohibition of Loud Noises.**—At a recent meeting of the board of health a new section was added to Article 12 of the Sanitary Code which provides that automobiles and other motor vehicles equipped with gasoline or other internal combustion engine, shall be constructed so that the exhaust from such engine is made to discharge into a muffler or other device which will prevent loud or explosive noises; and no person having the management or control of any such automobile or vehicle shall suffer or allow the exhaust from such engine to discharge into the open air, or otherwise than into a muffler or other device which would prevent loud or explosive noises.

**Czecho-Slovakian Fellows of Rockefeller Foundation.**—The following four physicians from Czecho-Slovakia have joined those who are now studying American methods of administration in medical schools: Drs. Zdenek Bernard, a Bohemian, 29 years of age, a graduate in 1914 of the University of Prague, who is making a special study of the organization of hygienic work in factories and the latest methods of treating venereal disease; Dr. Hynek Pelc, a graduate in 1918 of the University of Prague and later attached to the sanitary service in Cognac, France; Dr. Jaroslav Hulka, a Bohemian and graduate from the University of Prague in the class of 1919, who will devote himself to tuberculosis problems, and Dr. Karel Driml, a graduate of the University of Prague in 1914, who specializes in bacteriology and gynecology. All of these physicians have had medical experience during the war, and one was wounded in line of duty. Eight Chinese physicians, eight Chinese undergraduate medical students, four Chinese nurses, eleven medical missionaries on furlough from China, four physicians from Brazil and one physician from Salvador are also studying in America under fellowships from the Rockefeller Foundation.

## PENNSYLVANIA

### Philadelphia

**Medical Club Meets.**—The annual election and reception of the Medical Club of Philadelphia was held at the Bellevue-Stratford January 16. The officers elected were, president, Dr. Francis X. Dercum; vice presidents, Drs. Barton Cooke Hirst and Levi J. Hammond; secretary, Dr. William S. Wray, and treasurer, Dr. Lewis H. Adler.

**Hospitals to Unite.**—The Women's Hospital and the Women's Medical College Hospital have decided to unite. Announcement was made January 16. Committees from both hospitals had been appointed to form plans for a platform of affiliation; they will be vested with advisory powers and will arrange for a combination of dispensaries and the establishment of a purchasing department.

**Personal.**—Dr. Charles D. Hart has accepted the appointment as member of the board of prison inspectors for the Eastern Penitentiary.——Drs. Alice Weld Tallant and Maud Kelly who served with the French Society for Devastated France, Dr. Marianna Taylor, St. Davids, Pa., Friends Reconstruction Unit, Dr. Caroline Purnell, Commissioner to France, from the American Women's Hospitals, Dr. Regina Downe, Dr. Mary N. McLauchlan and Dr. Edith T. Morehouse of the American Women's Hospitals, Dr. Marie K. Formad of the Women's Overseas Hospital, and Dr. Laura Hunt of the Red Cross were the guests of honor at the medical college luncheon at the Adelphia January 16.

## CANADA

**Smallpox.**—Smallpox is reported to have broken out in Winnipeg, and the medical authorities of Manitoba have placed a ban on all travelers from the south who cannot produce satisfactory certificates of vaccination.——Smallpox is reported to have broken out in twenty-six new centers throughout the province of Ontario, and the province is still virtually under quarantine.

**University News.**—Prof. Clarence Moore has resigned the chair of biology in Dalhousie University, Halifax, N. S., and has been succeeded by Prof. Dowell Young of Cornell University.——President, Sir Robert Falconer of the University of Toronto in his annual report, states that while the attendance has increased, the staff has decreased. The staff in 1917-1918 numbered 413, while in 1918-1919 it was 369. The total registration of students is 3,356.

**Personal.**—Sir Robert Borden, premier of Canada, is now on his way to Florida suffering from the effects of his exertions during the world war. He expects to be away for about six months.——Dr. John Brown, Jr., Toronto, has been made head of the physiological department of the Y. M. C. A. of North America, succeeding Dr. George J. Fisher. His title will be Senior Secretary of the Physiological Department, Home Service Committee, of the Y. M. C. A.——Major Ambrose L. Lockwood, D. S. O., M. C., Brookville, Ont., is

leaving for the Mayo Clinic, Rochester, Minn. Major Lockwood was with the Royal Army Medical Corps from 1914 to 1919.——Dr. Archibald P. Knight, emeritus professor of biology, Queen's University, Kingston, Ont., will succeed Dr. Archibald B. Macallum, retired, as representative of the department of naval service on the biologic board of the dominion government. Prof. Robert F. Ruttan, McGill University, Montreal, has also been appointed a member of the board, to fill the place vacated by Prof. John George Adami, Montreal.——Capt. Baldur H. Olson, M.D., Balfour, recently resigned as medical superintendent of the Balfour Sanatorium, B. C. He is succeeded by Dr. Francis J. Kenny.

**Plans for Queen's University Medical School.**—A committee of the trustees of Queen's University at a meeting held, Jan. 3, 1920, unanimously agreed on plans for the reorganization and improvement of the medical school at Kingston. A full-time dean and an adequate number of full-time clinical professors are to be secured. The university expects to obtain entire control of the Kingston General Hospital. The hospital pathologic department will be further developed; a new system of records including a complete follow-up record will be installed, and a superintendent obtained who will be responsible for the medical administration of the hospital under the supervision of the university. It is estimated that the cost of rebuilding the hospital will be approximately $750,000, of which sum $550,000 is already assured. The expense of securing additional full-time clinical professors and the further development of the pathologic department will be approximately $35,000, making a total estimated expenditure of $785,000.

**Hospital News.**—A new psychopathic clinic has been opened in connection with the Winnipeg General Hospital with thirty-two beds. The administration of the department will be under Dr. Alvin T. Mathers.——The municipal hospital at Fort Rouge, Man., is to be enlarged at a cost of $1,000,000. It will be situated on the Red River, will have very extensive grounds and will be completed in 1921.——Seven new hospital districts are being established in Manitoba. They are Birtle, Deloraine, Melita, Pipestone, Souris, Ericksdale and Russell. The aggregate cost will be $200,000, authorized under the Manitoba Muncipal Hospital Act.——A children's pavilion in connection with the provincial sanatorium was recently opened by Premier Martin at Fort Qu'Appelle, Sask.——The amalgamation of the Protestant General Hospital and St. Luke's Hospital, Ottawa, is said to be not far distant. Both boards have approved of the scheme. When the hospital assets are transferred to the city of Ottawa, it is hoped to have a 500 bed hospital.

## GENERAL

**Society Meeting.**—The annual meeting of the Mid-Western Section of the American Laryngological, Rhinological and Otological Association will be held in Colorado Springs, Colo., February 7.

**Malaria.**—A joint resolution authorizing the United States Public Health Service to cooperate with the states in the investigation and control of malaria and appropriating $500,000 for this purpose was introduced in Congress, January 7, by Senator Harris of Georgia, and referred to the Public Health Committee.

**Restrictions on Cuban Travel Removed.**—Surgeon-General Blue, U. S. P. H. S., announced, January 6, that all restriction on travel between the United States and Cuba had been removed. Restrictions had been placed on this travel on account of the arrival to the United States from Cuba of several people suffering from smallpox.

**Bacteriologists Elect Officers.**—At the annual meeting of the Society of American Bacteriologists held in Boston recently, Dr. Charles Krumwiede, Bronxville, of the New York health department was elected president; Dr. F. C. Harrison, president of McDonald College, Montreal, vice president, and Dr. A. Parker Hitchens, Indianapolis, secretary (reelected).

**Deaths Following Eating Ripe Olives in New York City.**—During the past week newspapers recorded the deaths of six persons in New York City from eating olives. The brand of olives at fault has not yet been stated nor are the details available. It is stated, however, that the deaths were probably due to poisoning with toxins of *Bacillus botulinus*, similar to deaths occurring in Canton, Ohio, and in Detroit, also following eating ripe olives.

**Porto Rico Physicians Hold Meeting.**—At the annual meeting of the Porto Rico Medical Association held in San Juan, December 19, 20 and 21, under the presidency of Dr. Jorge del Toro, the following officers were elected: president, Dr. Pedro Malaret, Ponce; vice president, Dr. Pedro Del Valle Atiles, San Juan; secretary, Dr. Agustin A. Langier, San Juan; treasurer, Dr. Jacinto Aviles Borrero, San Juan, and councilor, Dr. Rafael Lopez Sicardo, San Juan. It was decided that the next meeting of the Association be held at Ponee, Dec. 11 and 12, 1920.

**Uniformity of Labeling.**—The Committee on Agriculture of the United States Senate recently held hearings on the bill of Senator Calder of New York to bring about uniformity in labeling of food and drug products in interstate commerce. The bill was designed to eliminate the conflicting regulations made by the various states. In view of the fact that the Department of Agriculture has interposed objections to its practicability and has presented an opinion seriously questioning the constitutionality of the bill, it is probable that the bill will not receive the approval of the committee.

**Mental Hygienists to Meet.**—The third annual convention of the Mental Hygiene Society of the United States and Canada will be held in New York City, February 4-5, under the auspices of the National Committee for Mental Hygiene and the Committee on Mental Hygiene of the New York State Charities Aid Association. The mental hygiene lessons of the war are to be one of the chief subjects of consideration at the meeting, at which Major-Gen. Merritte W. Ireland, Surgeon-General, U. S. Army, will preside. Dr. Pearce Bailey will describe the examinations which were used to determine in advance whether or not the soldiers would bear the strain of war, and Dr. Thomas W. Salmon, medical director of the National Committee for Mental Hygiene, will describe methods whereby the procedures employed in dealing with mental and nervous diseases in the American Expeditionary Forces may be applied in civil life. At this meeting twenty-two states and Canada will be represented.

**Association for the Advancement of Science.**—The seventy-second meeting of the American Association for the Advancement of Science and the affiliated national scientific societies was held in St. Louis, December 29 to January 3, under the presidency of Dr. Simon Flexner, New York. A change in the constitution was made which changed the title of Section H from anthropology and archeology to anthropology and that of Section I from psychology and philosophy to psychology. On the evening of January 1, the presidential address on "Present Problems in Medical Research" was delivered. Among the officers elected were: Dr. L. O. Howard, Bureau of Entomology, Washington, president; Prof. E. L. Nichols, Cornell University, Ithaca, N. Y., general secretary; E. K. Strong, Jr., Carnegie Institute of Technology, Pittsburgh, vice president, Section I, psychology, and Dr. Joseph Erlanger, Washington University, St. Louis, vice president, Section N, medicine.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

Home of the Merciful Seviour for Crippled Children, Rush Hospital for Consumptives, Children's Seashore Home, Chelsea, N. J., and Children's County Week Association, Philadelphia, each $1,000 and the residue of the estate after a few private bequests to the Episcopal Hospital, Philadelphia, for the maintenance of two free beds.

King's Daughters Memorial Hospital, Greenville, Miss, a donation of $5,000 from the Goyer Company, Memphis, Tenn., for the hospital building fund.

St. Peter's Hospital, Charlotte, N. C., a donation of $10,000 in memory of his grandson, Hamilton C. Jones, III, by W. A. Irwin, Durham. The donation is to be used to build an annex to the hospital, including a children's ward and maternity ward.

Grant Hospital, Chicago, $100,000; Alexian Brothers' and Michael Reese Hospitals, Chicago, each $5,000; United Charities of Chicago, $5,000, by the will of Mrs. Catherina Seipp.

Children's Memorial Hospital, Chicago, $10,000, the earnings of the Rummage Shop for the endowment of a bed in the hospital in memory of Dr. Walter Shield Christopher.

**Bills in Congress.**—Representative Henry T. Rainey has introduced in the House of Representatives a bill to provide for the care and treatment of drug addicts identical to that introduced in the Senate by Senator France of Maryland, Chairman of the Committee on Public Health and National Quarantine.——The Public Health Service is supporting a bill introduced by Hon. James E. Reed of Missouri for the purchase of a site and erection of a new hospital in St. Louis, to take the place of the old Marine Hospital which has been conducted under the auspices of the Public Health Service. An appropriation of $1,600,000 is requested, and it is reported that the donation of a considerable amount of land will be made to the Government by St. Louis interests in the event that the bill is passed.——The Public Health

Service is also interested in the purchase of the West Baden Hotel at West Baden, Ind., to be operated as a government hospital.——Senator Kenyon of Iowa has favorably reported the bill heretofore passed by the House of Representatives, "for the promotion of vocational rehabilitation of persons disabled in industry." The purpose of this legislation is to enable civilians who have been permanently disabled or injured in industrial pursuits, to learn trades in order to carry on gainful occupations. The measure is similar in character to that providing for soldiers who have been injured in the war. The bill provides for cooperation with the various states and requires that each state shall expend in the work the same amount as that expended by the federal government within that state.——A bill has been introduced by Representative J. S. Webster of Washington which will permit any Surgeon, Assistant Surgeon, or other medical officer of the Public Health Service who resigned for the purpose of entering the army or navy to be restored to his former position in the Public Health Service.

### FOREIGN

**Work of Zionist Unit.**—The report of the American Zionist Medical Unit, a body of about fifty physicians and nurses which began to function in Palestine in 1918, under the leadership of Dr. Isaac M. Rubinow, New York shows that it has established three hospitals, six dispensaries, three bacteriologic laboratories, two training schools for nurses and has organized sanitary squads in Jerusalem, Jaffa, Haifa, Tiberias, and Safed. The unit has also inaugurated a campaign against the mosquito and malaria, and in four weeks the mosquito-infected cisterns of Safed were reduced from 35 per cent. to 5 per cent.

**Stammering Children.**—There are about 1,200 stammering children attending elementary schools in London. The London County Council, realizing that such children are handicapped in getting employment, is about to organize special classes for them before they leave school. The classes will be started in different parts of London, and teachers, specially qualified for dealing with speech defects, will be appointed. The traveling expenses of children attending the classes will be paid by the council. The children will receive about twenty lessons in speech training.

**Help for Foreign Physicians in Need.**—The *Ugeskrift for Læger*, Copenhagen, relates: "Committees have been organized in Denmark, Norway and Sweden to aid those suffering most from the war. The aim is to help where the need is greatest, namely, in Austria, in the Baltic countries and in Belgium, and also in Poland and in Germany. It is planned for colleagues to help colleagues or their families, that is, for physicians to help physicians, clergymen to help clergymen, and so on. The plan is to send parcels or money, a package of food, clothing, soap, etc., every week or second week until the end of March, or to offer to take children into one's home. The central committee supplies the addresses of those who have applied for aid, and the aid is extended through the committees or the Red Cross. By this arrangement it is insured that the parcels, etc., will reach the addressees and that there will not be duplication of efforts."

### LATIN AMERICA

**Organization of the Mexican Medical Association.**—Dr. Rosendo Amor E., acting dean of the school of medicine of the National University of Mexico, has been making a trip through various states, organizing branches of the Mexican Medical Association. Branches have already been established at Querétaro, Celaya, Guanajuato, León and Aguascalientes. The officers of the Aguascalientes Society are the following: president, Dr. Francisco C. Macías; secretary, Dr. Manuel I. Rodríguez, and treasurer, Dr. Alfonso M. López.

**The Medical Profession in Colombia.**—In an editorial in the November issue of the *Repertorio de Medicina y Cirugía*, Bogotá, Colombia, attention is invited to the possible effect on the medical profession of that country, of the new conditions in other countries created by the war. Our contemporary is apparently in fear that the young physicians graduating by the thousand from European and American universities may go to Colombia "in search of peace, freedom and money." The *Repertorio* is especially alarmed at the migration from the United States which it terms picturesquely "the land of the voracious eagle, the stars and stripes" and lays stress on the presence of some American physicians in various Colombian cities and the number of patients who go to Panama to be treated by American physicians.

## Government Services

### Personnel of the Medical Department

For the week ending Jan. 16, 1920, the medical department of the Army contained 2,117 medical officers, including 1 major-general, 2 brigadier-generals, 167 colonels, 159 lieutenant-colonels, 515 majors, 798 captains and 475 lieutenants. The Medical Reserve Corps contained 4,413 officers, an increase of 65 over the previous week. These were distributed as 2 brigadier-generals, 74 colonels, 276 lieutenant-colonels, 1,257 majors, 1,829 captains and 975 lieutenants. The records of the general staff show 7,539 medical reserve officers as of Jan. 16, 1920. It is explained that these figures are not an absolutely accurate statement of the Reserve Corps as they include about 1,500 of the latest recommendations from which declinations have not been deducted, and do not include a number of recommendations which have been forwarded from the Surgeon-General's Office to the Adjutant-General's Office but which have not yet been acted on in the latter office.

### MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

*CALIFORNIA*
San Diego—Churchill, J. F.
San Francisco—Cummins, F. A.
Ryan, R. C.

*CONNECTICUT*
West Haven—Clarke, R. D.

*ILLINOIS*
Chicago—Burrows, L. A.

*INDIANA*
Corydon—Thomas, A. G.

*LOUISIANA*
New Orleans—Israel, J. P.

*MARYLAND*
Baltimore—Fear, R. D.

*MICHIGAN*
Detroit—Jackson, H. H.

*MONTANA*
Billings—Clarke, F. B.

*NEBRASKA*
Pawnee City—Flory, P. J.

*PENNSYLVANIA*
Philadelphia—Loftus, J. E.
Longaker, H. G.
York—Schellhamer, W. H.

*VIRGINIA*
Richmond—Emmett, J. M.

*WASHINGTON*
Edwall—Brugman, J. C.

## Foreign Correspondence

### PARIS

DEC. 18, 1919.

### Award of Prizes by the Academy of Medicine

The Academy of Medicine held its annual meeting, December 16, at which the secretary, Professor Achard, read the names of those to whom the academy had awarded prizes for the year 1919.

The Adrien Buisson prize of 10,500 francs, which is given every three years to the originator of the best method of treating recognized diseases that in the present stage of medical science are regarded as incurable, was bestowed on Dr. Sacquépée, agrégé professor at the Ecole d'application de médicine et de pharmacie militaires du Val-de-Grâce, and on Dr. de la Vergne, of the government military bacteriologic laboratory at Strasbourg.

The Théodore Herpin prize of 3,000 francs is given to the author of the best work on epilepsy and nervous diseases, and was bestowed on Dr. Fernand Netter of Paris.

The Henri Huchard prize of 6,300 francs was awarded to Dr. Clair of Paris for having eminently distinguished himself during the war of 1914-1918 by the care he gave to the sick and wounded.

The Berraute prize (a 3,092 franc 3 per cent bond) was bestowed on Dr. Paine, director of the institute for cancer research in Brompton, and on Dr. Albert Peyron, head of the military laboratory for cancer research in the Hôtel-Dieu, Paris.

The François-Joseph Audiffred prize (a 24,000 franc 3 per cent. bond) is to be given to the person, without provisions as to nationality or profession, who within a time limit of twenty-five years beginning with April 2, 1896, shall have discovered a curative or preventive remedy which shall be recognized by the Academy of Medicine as efficacious or sovereign in the treatment of tuberculosis. This prize was not awarded.

### Death of Troisier

Dr. E. Troisier, physician of the Hôpitaux de Paris and agrégé professor of the Paris Faculty of Medicine, died

recently, after a short illness, at the age of 75. Troisier, who was born at Savigny, department of the Ardennes, April 6, 1844, was descended from a family of physicians. His classical study was done in the *lycée* at Reims. Later he came to Paris to study medicine. He was appointed hospital physician in Paris in 1879. He became agrégé professor the following year, at the same time as Joffroy, Landouzy and Raymond. In 1901 he was elected a member of the Academy of Medicine in the section of medical pathology, and for a time was the secretary of the academy. Troisier published a large number of works, some of which have remained classic. His researches on supraclavicular adenopathy in abdominal cancer (1886-1889) have proved to be of great value, and the enlarged supraclavicular gland that sometimes is seen in cancer of the stomach or of the intestine is named the Troisier ganglion after him. He also published researches on pulmonary lymphangitis (1874), cancerous lymphangitis (1874-1901), cancer of the thoracic duct (1897), metapneumonic pleurisy, and other conditions.

### Medical Men in Chamber of Deputies

From the standpoint of industries and professions represented, the newly elected chamber of deputies presents quite a different aspect from the chamber of 1914. The number of industrials has almost doubled (fifty in place of twenty-six). The agriculturists are represented by fifty-two instead of nineteen. The legal profession, however, still has a large majority: 140, as compared with 148 who had seats in the chamber of 1914. The representatives of the medical profession have decreased. In 1914 they came right after the lawyers in the point of numbers, holding, as they did, fifty-four seats, whereas the new chamber has only forty-one, with the result that they are exceeded by the capitalists, the industrials and the agriculturists.

### A Welfare Society of the Foreign Colonies in France

The Union des Colonies étrangères en France, founded for the purpose of rendering aid to the victims of the war, has just held its fourth general meeting, under the presidency of Walter Berry. Mrs. Edmun L. Baylies, president of the American Committee of New York, was also present. Since the war the union has founded and supported five schools in which crippled and disabled soldiers are trained for some trade or profession, among which schools was that of Maison-Blanche in Neuilly-sur-Marne (THE JOURNAL, Jan. 17, 1920, p. 190). The union has collected in gifts and assessments nearly 5,000,000 francs, and has given training to 7,000 men.

### The Effects of High Altitudes

At the last meeting of the Academy of Sciences, Dr. Raoul Bayeux submitted an interesting communication in regard to scientific observations that he made during an ascent of Mont Blanc. According to Bayeux, the discomforts of high altitudes are caused by urinary intoxication. A large number of urinalyses made between Chamonix, the village at the foot of Mont Blanc, and Mont Blanc Observatory have shown that the toxicity of the urine increases rapidly among the inhabitants as the higher altitudes are reached. This toxicity is, however, notably decreased if oxygen is injected subcutaneously. Owing to such injections, Bayeux was able to spend eleven days on Mont Blanc at an altitude of 4,400 meters without suffering any ill effects.

### Roentgenographic Examination of the Abdominal Viscera

At a recent meeting of the Société médicale des hôpitaux de Paris, Dr. Ribadeau-Dumas exhibited a number of roentgenograms of the abdominal organs (liver, spleen, kidneys, gallbladder) that were taken after the intra-abdominal injection of oxygen (induced pneumoperitoneum). Remarkably clear plates are thus secured. These injections were found to be harmless and caused no discomfort. Dr. R. Bensaude stated that he preferred to inject simply air with a syringe, and that a high degree of visibility of the abdominal organs is thereby secured. After the roentgenographic examination is over, all that is necessary to do in order to draw out the air is to press on the patient's abdomen. Bensaude has never seen any ill effects from these injections, unless it be an occasional slight painful sensation in the dorsolumbar region.

### Diabetes and Exophthalmic Goiter

Dr. Marcel Labbé reported to the Société médicale des hôpitaux de Paris five cases of diabetes associated with exophthalmic goiter. All the different forms of diabetes were to be found associated with the exophthalmic goiter: simple alimentary glycosuria, diabetes without denutrition, diabetes with denutrition, and diabetes accompanied by acidosis, resulting in death during coma. But this diabetes has certain special features. The glycosuria seems to be less affected by diet than usual. The evolutionary stages of the disease coincide with those of the exophthalmic goiter. At times, crises in the exophthalmic goiter occur, accompanied by extreme tachycardia, pulsations of the goiter, and diarrhea, together with severe polyuria, an increase of the glycosuria, considerable azoturia (from 44 to 48 gm.) and acidosis. Moreover, it was found that acidosis is a very common complication in the diabetes of exophthalmic goiter patients. According to Labbé, the medicaments that act on the goiter act also on the diabetes. Iodin has been found particularly efficacious in treating the two syndromes. Dr. Sicard, however, opposes this view and thinks that iodin aggravates the symptoms of exophthalmic goiter.

## LONDON

JAN. 3, 1920.

### Sir William Osler

The death of Sir William Osler has cast a gloom over the whole profession. In spite of his years, his activities were so great and his outlook so fresh that we never regarded him as an old man. Great physician, great teacher, great scholar, great writer is how one would sum him up. To certain others, even in his own time, some of these terms can be applied with equal force; but to whom can they all be applied? The name of his great compeer of Cambridge comes to the lips, and we know enough to say (THE JOURNAL, Aug. 30, 1919, p. 706) that the comparison would not have been unwelcome to Osler. Though alike in all these qualities, Sir William Osler and Sir Clifford Allbutt differed much and in a way not easy to define. Osler's career was, of course, widely different, and he stood alone in his remarkable influence on medicine in two continents. He seemed to be medicine personified. He combined the backward glance at the achievements of the past with the forward glance of the latest investigations in a fuller measure than any other man excepting the venerable one referred to, with whom comparison seems unavoidable. Above all, there was his winning personality, his single-minded enthusiasm for knowledge, his kindliness to his fellow man, whether colleague, student or patient. No wonder, to use his own words, the benediction of friendship followed him like a shadow, and he had the sense of comradeship in work without the petty pinpricks of jealousies and controversies.

As all who read these lines are doubtless familiar with his earlier American career, I will begin with his arrival in England. His reason for leaving Baltimore he gave as follows (*Brit. M. J.*, Jan. 3, 1914): "I had had thirty-one years of uninterrupted hard work. William Pepper, my predecessor in Philadelphia, died of angina at 55. John Musser, my successor, died of the same disease at 53. I had had a good inning, and was glad to get away without a serious breakdown." The intellectual calm of Oxford, where he had ample leisure for his literary and educational work, was a welcome relief after his American life, which had become too strenuous. When in 1905 he succeeded Sir John Burdon Sanderson in the Regius Professorship of Medicine, he brought to a somewhat antiquated school an unrivaled experience of the most modern schools and an enthusiasm for reform. It was, indeed, an ideal appointment. He was then 55 and at the height of his fame. The school was small and in some ways cut off from the other activities of the university. He soon wrought a change. His breadth of learning and manifold activities provided links with other departments. He brought the academic teaching of medicine more fully into touch with practice. He helped to develop the departments of pathology and physiology. At the Radcliffe infirmary he greatly improved the clinical teaching, and combined practice with scientific research and academic exposition as had never been done before. Mainly through his efforts a new clinical laboratory was built. For his antiquarian interests and delight in books, Oxford provided an ideal home. He spent much of his leisure in the famous Bodleian library, of which he was a curator. Of the happiness of his life at Oxford he has often borne testimony. Then came the war and the great blow of the loss of his only son in the field. He bore up bravely and continued his work, immersing himself in all the additional duties which war hospitals provided. But the loss told heavily on him and it has been described as a mortal wound. His presidency of the Fellowship of Medicine was inevitable, for no man was more devoted to the ideal of linking up the English-speaking races or had done so much for it. The open hospitality of his house at Oxford to Americans and other travelers, and his helpfulness

to them will long be cherished as a memory by many. He was always responsive to the appeals of friends abroad, was anxious about wounded sons, and undertook long and fatiguing journeys. While called in consultation in Glasgow he was caught by the railway strike, and undertook a long motor drive from Newcastle to Oxford. He arrived ill. For three months he suffered from bronchitis and pneumonia of an ill-defined type. An operation for empyema became necessary just before Christmas and seemed to promise favorably, but he died suddenly, Dec. 29, in his seventy-first year. A large and representative gathering attended the funeral service, which took place at Christ Church Cathedral, Oxford. Among the chief mourners were Lady Osler, Dr. W. Francis, Mrs. Henry Chapin, Sir Archibald Mellock, Miss Emmons and Mr. and Mrs. Frank Osler. In the congregation were the vice chancellor; the senior and junior proctors; Sir Frederick Treves; Prof. G. H. F. Nuttall; Prof. Sir T. Clifford Allbutt; Sir Norman Moore, representing the Royal College of Physicians; Sir H. D. Rolleston, representing the Royal Society of Medicine; Colonel Harvey, representing the director-general of the army medical service; Sir George Perley, representing the high commissioner for Canada; Dr. W. Collier, representing the British Medical Association; Dr. E. J. Woods, representing the Association of American Physicians; Mr. E. Maclean, representing the American University Union in Europe; Lieut.-Col. G. W. Badgeron, representing the Academy of Medicine and the University of Toronto, and Col. J. G. Adami, chancellor of the University of Liverpool. The body was taken to London for cremation.

### Panel Physicians Demand Increased Remuneration

The great increase in the cost of living—amounting to more than 100 per cent.—has led to an increase of physicians' fees. Recently the British Medical Association decided that medical fees should be increased by 50 per cent. The turn has now come of panel physicians who work under a fixed capitation fee of about $1.50 per insured person. The Insurance Acts Committee of the British Medical Association has decided that under present circumstances $3 is the lowest capitation fee that can properly be accepted for an effective service. A conference on the subject has been held between representatives of the association and Dr. Addison, minister of health. Sir Clifford Allbutt, president of the association, stated that the parallel to the present insurance practice was the club practice, in which the average capitation fee was $1. In some cases the service was poor, but in others expensive drugs were used and the service on the whole was not unsatisfactory. The club physician, however, did not entirely depend on his clubs for a living, and not infrequently this part of his work resulted in a loss. With the passing of the insurance act the capitation fee had to be regarded in the majority of cases as a sum which would provide reasonable remuneration for a physician whose insurance patients occupied the greater part of his time. They had now to consider: (1) the fall in the value of money, and (2) the increased demand on the physician and the improved standard of work. In his experience in consulting practice, a patient required an hour's time for work for which twenty years ago a quarter of an hour would have been ample. He also referred to the increased cost of medical training, and emphasized the need of a good standard of remuneration in order to attract young men of the best type.

In replying, the minister of health recognized that there were increasing demands for an improved standard of service and that an impetus had been given to these demands by the illustration afforded by the war of what could be done by medical science. As a remuneration, there was no possibility of hoping to satisfy extremists, but he would do his best for the fair-minded man with a proper professional standard. Whatever might be the ideal arrangement, regard must be had to the state of the public finances. He did not think that the case for a $3 capitation fee had been made out. A distinction must be drawn between the percentage increase of the wages of the laboring classes (which must almost inevitably go in actual expenditure on food) and the case, for example, of men in the civil service receiving an income more or less comparable with that of an average physician. There was a case for a substantial increase over the prewar fee, and the new fee must be one which would give a good average physician, fairly doing his duty, what he himself would feel would pay him.

### Close of the Belgian Physicians' and Pharmacists' Relief Fund

A meeting of the constituents of this fund was addressed by Dr. V. Pechère, president of the Belgian National Relief Committee for Physicians and Pharmacists, which during the war distributed at Brussels the money received from the British and other funds. He told how during the war the Belgian committee many times tried to send to England its regular reports but were prevented by the Germans. At the end of August, 1914, when it heard of the destruction and the atrocities committed in eastern Belgium by the Germans, the committee tried to establish a committee to succor their *confrères sinistrés*. But it was difficult to get any exact information as to what had happened, because of the German regulations, which rendered traveling almost impossible. There was no postal service, much less telegraph or telephone. It was the beginning of the prison régime. The committee got by subscription in Belgium 180,000 francs, from foreign lands 100,000 francs, and from England $135,000. With this sum it was able to save 140 families, more than 400 persons. One of the reasons for help was the disappearance of the head of the family.

### Operation Amid Flames

The king has decorated with the Albert medal Capt. Charles Hoskyn. On the occasion of a railway accident in France, a man was pinned down by the leg under heavy girders. The wreckage was on fire and the flames had reached his ankles. Captain Hoskyn crawled into a cavity in the flaming wreckage, released one of the man's legs, amputated the other, and assisted in bringing the poor fellow out alive, retaining hold of the main artery until a tourniquet could be applied.

### The Cost of Tuberculosis

The annual report of the Local Government Board, just issued, deals fully with the work carried out on tuberculosis. The number of beds provided by local authorities in sanatoriums and hospitals has increased from 1,500 in 1911 to 7,038. The number of dispensaries provided has increased from thirty to 349. In addition, four large sanatoriums, containing in all 650 beds, will soon be available. The gross expenditure by local authorities on the treatment of tuberculosis from July 15, 1912, to March 31, 1919, is estimated to have exceeded $25,000,000. Efforts have been made to handle the cases of the tuberculous ex-soldier and sailor and the organization is on a better footing than while the war lasted. In addition, the board has approved of four training colonies where consumptives can be taught suitable occupations.

## GUAYAQUIL

Dec 10, 1919.

### Leishmaniosis in Ecuador

Dr. Alfredo J. Valenzuela V., professor of internal pathology at the University of Guayas, presented before the physicians and medical students of this city two cases of leishmaniosis confirmed bacteriologically by Dr. José D. Moral. The cases were very interesting because of their having been confirmed microscopically and having responded to the specific treatment.

### Sanitary Conditions

For the last six months there has not been a case of yellow fever. Dr. M. E. Connor of the Rockefeller Foundation is continuing his campaign against the mosquitoes that carry yellow fever.

Dr. León Becerra, director of sanitation, in association with Dr. Connor has just began a campaign against hookworm disease, which is prevalent in this country.

### Personal

After having accompanied General Gorgas and Colonel Lyster on their trip in Central America to study yellow fever conditions, Dr. W. Pareja, one of the quarantine physicians of this port, who also belongs to the Rockefeller Foundation, has returned to this city.

## VIENNA

Dec. 18, 1919.

### Effects of the War on General Health in Vienna

The five years of war, together with the deplorable tragedy of the few months of so-called peace, have had a most detrimental effect on the general condition of the population of this city. More than 2,000,000 people, over 30 per cent. of the entire population of this new state, are dependent on outside supplies of food and fuel, which in peace times were furnished in abundance, but now are lacking every day more and more. The striking feature in the life of the city is the scarcity, or rather absence, of young children on the streets. The birth rate from 1918 to 1919 was less than 30 per cent. of the figure for 1914. Another, most visible, feature is the leanness

of the people. Formerly, a certain stoutness of the middle-aged persons, especially the women, was noticeable. The vast majority of the population have lost over 15 per cent. of their weight, many even much more. This is due to the hardly credible reduction in the supply of food, with which the Viennese have to cope. The qualitative and quantitative food values are so low that the calculated minimum of calories of 2,300 a day is never reached by the ration allowed by the government to each inhabitant. Lately this figure fell to 1,270. The effect is the visible undernutrition of the population, especially of children and the aged. The official report of the board of health of Vienna states that in 1914 the mortality rate was 16.25 per thousand of population (33,258 deaths). In 1918 it was over 26 per thousand (52,492 deaths). In 1914, tuberculosis was responsible for 6,223 deaths; in 1918, the figure went up to 11,531. So far in 1919, more than 12,000 persons have died from this disease. Thus, aside from emigration, which has assumed such proportions that one can speak with truth of the flight from Vienna (everybody in a position to do so has moved elsewhere), the population is constantly decreasing because of natural causes. The last few years have furnished an experiment on a large scale as to the lowest amount of food with which life can be continued. It has been proved that 3,000 calories, the figures given heretofore, are incorrect. They are much too high, for the amount of food consumed by the general population here, though far below that margin, has kept us alive and fit for work to a moderate degree, at least.

The condition of the new-born and of children up to 4 years has been studied by Dr. T. Weiss, who has found that 90 per cent. of all children born in the last three years show more or less marked signs of rickets; especially is this true of those born after 1917. The weight of all young babes was from 15 to 20 per cent. under normal. The older children were up to 33 per cent. under normal, so that a 4 year old child looked like a 2 year old. Even the children 9 or 10 years of age look as if they were only 6 or 7. These figures pertain to the poorer and middle classes. Among the rich, children show a little more favorable condition, but there, too, the quality of the food has not been satisfactory, in spite of wealth, for good food was and is not as yet obtainable at any price. Even children of the wealthy are rickety, anemic and weakly, although in better shape than the children of the poorer classes.

The inadequate nutrition of adults could also be easily recognized in a large number of cases by signs of bone diseases rarely encountered in normal times. Thus osteomalacia was frequently seen in the hospitals, not only in females, but also in males. Cases of obstinate "rheumatism," of "backache," of "colds" were disclosed by exact investigation to be due to softening of bones, produced by lack of calcium in the system. The diet often was entirely lacking in fat, and consisted principally of vegetarian products—cabbage, beets, and similar vegetables, not used as an exclusive diet except in times of stress. Furthermore, so-called "hunger edema" has been often noted in hospitals. Patients came with general anasarca, which, however, soon disappeared on administration of food containing vitamins. A marked decrease of diseases of the digestive organs has been evident, especially as regards the inflammatory and catarrhal type; also gout and diabetes have been less frequent. Dermatoses and furunculosis have been very annoying lately; especially scabies has become a real scourge. Arrangements have been made in our general hospitals for antiscabies treatment on a large scale. Wilkinson's compound sulphur ointment is the universally adopted remedy, followed by a zinc application. The body of the patient is well rubbed with this ointment. He is then given a soap bath, which treatment is repeated three times within two hours. Meanwhile the linen and the clothing of the patient are disinfected by a vapor process. By means of this rapid cure, hundreds of cases are dealt with daily.

A frequent figure in hospitals as well as in the practitioner's office is the war invalid. The total figure for the crippled and disabled soldiers of the former Austro-Hungarian army is placed at 380,000, which includes the blind, the deaf, the diseased and the mutilated. Of this total, about 120,000 fell to the lot of the present Austrian Republic. Needless to say, the majority of these men are in the capital and demand the more or less constant care of skilled medical men. They take up a large percentage of the hospital beds. Therefore, an invalids hospital has been established, and the former military hospitals have been turned over to a committee for the care of war cripples and invalids. A special orthopedic hospital under Professor Spitzy is in full working order in Vienna, and is supplied with all the most up-to-date appliances for the care of the armless or otherwise crippled persons. A visit to Vienna just now would be worth while for the American physician. Aside from the food problem, which the American Mission or the American embassy here would no doubt help citizens of the United States to solve, life would be very cheap here, as one dollar is now equivalent to nearly 200 kronen, or forty times its peace value. The prevailing prices, however, are only twenty times those of peace times. There is a good deal of medical work to be seen and much to be learned here at present along the line of special plastic surgery, pediatrics, chemistry and general pathology. Details will be given in a following letter.

The conditions affecting the general practitioner are now undergoing a transformation. Owing to ideas creeping in from Russia and Hungary, where socialistic methods and institutions have to a large degree interfered with the physician and his work, certain changes seem inevitable. Thus, the socialization, that is, the absolute control by the state of the physician and his time, place and method of work, was at one time contemplated by our government. Only the unanimous opposition of the profession, which an almost universal organization made possible, has averted the danger thus far. But a strict and continuous watch over affairs is necessary.

## BUENOS AIRES

DEC. 6, 1919.

### New Plan for Medical Teaching

One of the changes made by the new national plan of studies in the laws relating to universities prescribes that no profession shall require more than six years of study. Though there was some doubt as to the legality of this provision since the right to legislate on these subjects belongs to Congress, this measure has been accepted. The board of directors of the school of medicine has just approved a plan of reforms according to which the study of medicine will take only six years. The plan to distribute the studies in five periods was rejected, the distribution in years being approved instead, with compulsory examinations. Several specialties will be studied now in a semester (really four months) instead of a year. In view of local habits the plan has not been received with much enthusiasm by the students who favor the seven years period heretofore in force. The age of retirement for professors has been fixed at 65 years. There has been proposed the establishment of several new chairs: infant surgery and orthopedics, and the branching off of pharmacodynamics and therapeutics.

### Influenza in Young Children

The Society of Pediatrics has held a sort of miniature congress devoted to the study of the latest epidemic of influenza among infants. The various speakers called attention to the fact that the disease attacks also little children (Dr. Elizalde), and that the influenzal bronchopneumonias are less serious than those due to measles or whooping cough (Dr. Centeno). There have been observed some cases of miliary bronchopneumonia that simulated miliary tuberculosis (Dr. Bacigalupo). All agreed as to the worthlessness of the pneumococcic vaccine called haptinogeno neumo of Dr. Méndez.

### The Rockefeller Foundation Commission

The University of Tucuman has asked—and its request has been successful—that the Rockefeller Foundation Commission send a medical commission to study malaria and its prophylaxis in the province of Tucuman.

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# *Marriages*

LUCIUS WILLIAM CASE, Pomona, Calif., to Miss Jennie M. Flanner of Jackson, Mich., at Pomona, January 1.

WILLIAM HENRY MACKAY, Philadelphia, to Miss Florence M. Gompers of Washington, D. C., December 25.

MALFORD WILCOX THEWLIS, Wakefield, R. I., to Miss Christiane Cherfils of Paris, France, December 10.

ROSWELL TALMADGE PETTIT, Ottawa, Ill., to Miss Dorothy Blatchford of Oak Park, Ill., January 16.

HENRY JACKSON, JR., Baltimore, to Miss Isabella Dove Lee of Chestnut Hill, Boston, January 3.

HAROLD FREDERICK LANSHE to Miss Elizabeth B. Taylor, both of Allentown, Pa., recently.

HARRY S. BERMAN, Detroit, to Miss Caroline Block of Gordonsville, Va., December 23.

# Deaths

**William Samuel Gottheil** ✠ New York City; College of Physicians and Surgeons in the City of New York, 1882; aged 60; a specialist in dermatology; professor of dermatology in the New York School of Clinical Medicine; a fellow of the New York Academy of Medicine; a member of the American Dermatological Society; dermatologist to the City and Lebanon hospitals, New York City; consulting dermatologist to Beth Israel, Washington Heights, Jewish Maternity, and Rockaway Beach hospitals, and the Hospital for Deformities and Joint Diseases, New York City; died January 7, from heart disease.

**Wallace Edgar Sabin** ✠ Lieut., M. C., U. S. Army (retired), Anna, Ill.; College of Physicians and Surgeons in the City of New York, 1868; aged 74; contract surgeon, U. S. Army from December, 1869, until September, 1892, and from 1898 to 1908; commissioned first lieutenant, Medical Reserve Corps, July 7, 1908, and first lieutenant, Medical Corps, May 22, 1909, and retired by operation of law, June 7, 1909; a member of the Association of Military Surgeons of the United States; died at the home of his brother, January 10, from angina pectoris.

**Charles Philip Pinckard,** Chicago; Harvard University Medical School, 1889; aged 55; a member of the Illinois State Medical Society; a specialist in diseases of the eye; and one of the founders of the Chicago Ophthalmological Society; attending ophthalmologist to Michael Reese Hospital and the dispensary of that institution, and to the Home for Crippled Children; died January 17, from heart disease.

**Hilary M. Christian** ✠ Philadelphia; University of Pennsylvania, Philadelphia, 1882; aged 61; professor of genitourinary diseases in his alma mater; a member of the genitourinary staff of the German Hospital; formerly clinical professor of surgery in the Medico-Chirurgical College of Philadelphia; died in the Presbyterian Hospital, Philadelphia, January 7.

**Emma Valeria Pintard Bicknell Culbertson** ✠ Boston; Woman's Medical College of Pennsylvania, Philadelphia, 1881; aged 65; a member of the American Academy of Medicine; a specialist in surgery and gynecology; attending surgeon to the New England Hospital for Women and Children, Boston, since 1883; died in St. Petersburg, Fla., January 9.

**Richard Justus Swoboda** ✠ Philadelphia; Medico-Chirurgical College of Philadelphia, 1906; aged 36; associate professor of chemistry and toxicology in Temple University, Philadelphia; for nine years a district physician under the department of health and charities; died January 3, from a nervous breakdown.

**Byron H. Phelps,** Corry, Pa.; Western Reserve University, Cleveland, 1871; aged 75; consulting surgeon to the Corry Hospital; formerly mayor of Corry and president of the local board of health; while crossing the railway tracks at Spartansburg, Pa., January 5, was struck by a train and instantly killed.

**Britton Duroc Evans** ✠ Greystone Park, N. J.; College of Physicians and Surgeons, Baltimore, 1885; aged 61; medical director of the New Jersey State Hospital, Morris Plains; a medicolegal expert in insanity and mental diseases; once president of the Morris County Medical Society; died January 14.

**Laura House Branson** ✠ Iowa City; State University of Iowa, Iowa City, 1885; aged 50; formerly a member of the staff of Mercy Hospital, Iowa City, and president of Johnson County Medical Association, and the Iowa Women's Medical Society; died at the home of her daughter in Oklahoma City, January 11.

**John Willcheur Barnes,** Columbus, Ohio; Cincinnati College of Medicine and Surgery, 1889; aged 56; formerly demonstrator of anatomy and later professor of practical anatomy in the Medical College of Ohio, Cincinnati; died January 1, from diphtheria.

**Henry Neill Dickson** ✠ Paragould, Ark.; Vanderbilt University, Nashville, Tenn., 1889; aged 52; pathologist and physician to the Paragould Sanitarium; died in St. Louis, December 7, from peritonitis following rupture of the gallbladder.

**Joseph Eugene Rolly Ellis,** Grafton, W. Va.; Bellevue Hospital Medical College, 1895; aged 48; a member of the West Virginia State Medical Association; a veteran of the war with Spain; died December 22, from heart disease.

**Dudley W. Stewart,** Los Angeles; Northwestern University Medical School, Chicago, 1861; aged 83; a pioneer practitioner of Southern California; surgeon of United States Volunteers during the Civil War; died about January 1.

**David S. Alverson,** Vicksburg, Miss.; Memphis (Tenn.) Hospital Medical College, 1899; aged 44; a member of the Mississippi State Medical Association; was shot and killed, it is believed, by the husband of a patient, January 5.

**Franklin Loder,** Logansport, Ind.; Indiana Eclectic Medical College, Indianapolis, 1890; aged 55; died in St. Joseph's Hospital, Logansport, December 30, from the effects of poison, taken, it is believed, with suicidal intent.

**George William Fox** ✠ Milwaukee; Rush Medical College, 1897; aged 44; a well known surgeon of Milwaukee; for many years a member of the staff of St. Mary's Hospital; died January 8, from bronchopneumonia.

**Frank C. Stewart,** Indianapolis; Hahnemann Medical College, Chicago, 1886; aged 66; a member of the Medical Corps of the Indiana National Guard during the war with Spain; died January 1, from paralysis agitans.

**Albert Chenoweth,** Bushnell, Ill.; Rush Medical College, 1872; aged 71; formerly a surgeon in the Army, serving with General Reno at the time of the Custer massacre; died January 2, from cerebral hemorrhage.

**Arthur Joseph Lance** ✠ Portsmouth, N. H.; University of Vermont, Burlington, 1893; aged 49; a member of the American Academy of Ophthalmology and Oto-Laryngology; died January 4, from cerebral hemorrhage.

**Oscar Wilhelm Carlson,** Milwaukee; Hahnemann Medical College, Chicago, 1872; aged 76; a practitioner for fifty-four years; a veteran of the Civil War; a member of the staff of St. Mary's Hospital; died January 7.

**Charles Freemont Darnall** ✠ Llano, Texas; Rush Medical College, 1882; aged 63; secretary of the Llano County Medical Society, and city health officer; died December 2, from chronic bronchitis.

**Alfred Manic Sharrocks,** Syen Chyun, Chosen, Korea; Cooper Medical College, San Francisco, 1899; aged 47; died in Rochester, Minn., December 25, from atrophic cirrhosis of the liver.

**Monroe Jacob Holben,** Slatington, Pa.; Hahnemann Medical College, Philadelphia, 1875; aged 69; a member of the town council of Slatington; died December 17 from neurasthenia.

**Laris P. Torrence** ✠ Blakesburg, Iowa (license, Iowa, years of practice, 1886); aged 72; a practitioner for forty-five years; died in Ottumwa, Iowa, January 8, after a surgical operation.

**Elbridge Olin Kinne,** Syracuse, N. Y.; University of Michigan, Ann Arbor, 1878; aged 67; consulting physician to the Homeopathic Hospital; died January 4, from heart disease.

**Charles Russell Cavanagh,** Boston; Harvard University Medical School, 1892; a member of the Massachusetts Medical Society; died at his home, in Dorchester, Boston, recently.

**John T. McClanahan,** Boonville, Mo.; Eclectic Medical Institute, Cincinnati, 1874; aged 66; at one time a member of the state medical board of Missouri; died January 1, from paresis.

**Lewis Calvin Emenhiser** ✠ Indiana Harbor, Ind.; Chicago College of Medicine and Surgery, 1915; aged 32; died in the Presbyterian Hospital, Chicago, January 2, from encephalitis.

**Frank Merle Dryden,** Chicago; University of Illinois, Chicago, 1919; aged 30; died in Wesley Memorial Hospital, Chicago, December 28, from septicemia following a carbuncle.

**Henry L. J. Hille,** Roaring Spring, Ky. (license, examination and twenty-three years practice, 1894); aged 69; died at the home of his son-in-law, January 3, from heart disease.

**James E. Morrison,** Boulder, Colo.; Hahnemann Medical College, Chicago, 1866; aged 85; for many years a practitioner of Paxton and Urbana, Ill.; died January 1.

**Benjamin Sindel** ✠ New York City; Long Island College Hospital, Brooklyn, 1907; aged 34; assistant surgeon to the Gouverneur Dispensary; died January 7.

**Carl Elias Dufft,** Mount Vernon, N. Y.; College of Physicians and Surgeons in the City of New York, 1881; a well known vocalist; died January 9.

✠ Indicates "Fellow" of the American Medical Association.

**Claudius G. Barnett,** Lewisville, Ind.; Medical College of Ohio, Cincinnati, 1877; aged 64; a member of the Indiana State Medical Association; died, December 28, from arteriosclerosis.

**Francis Thornton Buckner,** Kansas City, Mo.; Bellevue Hospital Medical College, 1865; aged 83; a Confederate veteran; died in a hospital in Kansas City, December 27.

**Harry Wadsworth Dorman,** St. Petersburg, Fla.; Western Reserve University, Cleveland, 1881; aged 67; for many years a practitioner of Ashtabula, Ohio; died January 4.

**Homer Corbly Rice,** New Freeport, Pa.; University of Pittsburgh, 1897; aged 50; a member of the Medical Society of the State of Pennsylvania; died December 24.

**Ralph W. Connell,** Omaha; Pulte Medical College, Cincinnati, 1882; aged 60; formerly health commissioner of Omaha; died January 3, from heart disease.

**Edwin Alphonso Carpenter,** Baileyville, Ill.; Rush Medical College, 1875; aged 73; a practitioner for 52 years; a veteran of the Civil War; died December 31.

**Charles T. Morel de la Durantaye,** Bourbonnais, Ill.; Ecole de Médecine et de Chirurgie, Montreal, 1888; aged 61; died January 5, from heart disease.

**Daniel Heard Brook,** Lieut., M. C., U. S. Army, Travis, Texas (license, Texas State Board, 1907); died December 22 from chronic interstitial nephritis.

**Homer Andrew Bushnell,** North Adams, Mass.; Albany (N. Y.) Medical College, 1905; aged 41; died in a sanatorium at Westfield, Mass, December 31.

**Edward William McBirney,** Willet, N Y.; University of the City of New York, 1875; aged 69; health officer of Cortland County; died December 19.

**Ezra Albert Scammon,** Columbus, Kan.; University of Michigan, Ann Arbor, 1867; aged 76; also a druggist; died December 30, from pneumonia.

**Addison Marshall Clark,** Youngstown, Ohio; University of Pennsylvania, Philadelphia, 1880; aged 62; died December 22, after a surgical operation.

**Jennie Lind Phillips Thompson,** Chicago; University of Illinois, Chicago, 1898; aged 51; died January 4, from cerebral hemorrhage.

**John Pressly Logan,** Ottawa, Kan.; Medical College of Ohio, Cincinnati, 1867; aged 77; died January 1, from cerebral hemorrhage.

**Theophilus W. Hunter,** Quitman, Ga.; Jefferson Medical College, 1876; aged 68; died in a sanitarium in Atlanta, December 13.

**Frank A. Maguy** ⊕ Chicago; Hahnemann Medical College, Chicago, 1890; aged 61; died December 29, from bronchial pneumonia.

**W. S. Barton,** Orangeburg, S. C.; Reform Medical College, Macon, Ga., 1860; aged 81; died November 23, from pleuropneumonia.

**Franklin Bennett,** Brooklyn, N. Y.; University of the City of New York, 1875; aged 70; died December 28, from pneumonia.

**John Delmayne Hanson** ⊕ Donaldsonville, Ind.; Tulane University, New Orleans, 1880; aged 70; died about January 5.

**Edgar Henry Byers,** Philadelphia; Jefferson Medical College, 1889; aged 54; died January 7, from a nervous breakdown.

**Thomas E. Russell,** Paducah, Ky.; University of Louisville, Ky., 1886; aged 58; died December 31, from paralysis.

**John Milton French** ⊕ Silsbee, Texas; University of Nashville, Tenn., 1903; aged 41; was found dead, December 11.

**Leonora Elma Knerr,** Indianapolis; Medical College of Indiana, Indianapolis, 1898; aged 68; died December 14.

**Oscar M. Long,** Columbia, Mo.; University of Louisville, Ky., 1892; aged 50; died December 29 from tuberculosis.

**Almanzer Ronelson Howard,** Canton, Ill.; Eclectic Medical Institute, Cincinnati, 1878; aged 59; died December 23.

**James Hamilton Cummins,** Newark, N. J.; Bellevue Hospital Medical College, 1890; aged 57; died December 4.

**Howard Judson Denovan,** Stettler, Alta.; Trinity Medical College, Toronto, 1892; aged 51; died November 16.

**Abel Roberts Wilson,** West Albany, Ala. (license, Lawrence County, Ala., 1885); aged 82; died December 22.

**Frank Duncan,** Paxton, Ill.; Hahnemann Medical College, Chicago, 1875; aged 71; died January 1.

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

## APOTHESINE

### Report of the Council on Pharmacy and Chemistry

Apothesine is a synthetic drug for producing local anesthesia, made by Parke, Davis & Company. In the fall of 1917 the Council wrote to Parke, Davis & Company offering its aid in establishing the identity, purity, and therapeutic efficiency of this synthetic local anesthetic with the ultimate object of accepting the product for inclusion in New and Nonofficial Remedies should the facts warrant such acceptance. The Council's letter was never acknowledged. After Apothesine was put on the market the Council desired to accept it for inclusion in New and Nonofficial Remedies but, unfortunately, was unable to do so because some of the claims made for the product were not justified by acceptable evidence. The manufacturers were notified of the Council's desire to admit this product to N. N. R. and the wish was expressed that the company would either so modify its claims as to make the product acceptable under the Council's rules or else would submit evidence to the Council in proof of the claims made and thus permit the Council to revise its conclusions. Parke, Davis & Company were, apparently, either unwilling or unable to submit evidence that would sustain their claims; neither did they offer to modify the claims themselves. The product, therefore, is ineligible to inclusion in New and Nonofficial Remedies; it will, however, be listed in the "Described But Not Accepted" department of New and Nonofficial Remedies. The report on Apothesine that follows has been authorized for publication.

W. A. PUCKNER, Secretary.

Apothesine, "the hydrochlorid of diethyl-amino-propyl-cinnamate," is an efficient local anesthetic. It belongs to the procain rather than to the cocain type, that is, it belongs to that type which, while effective for injection anesthesia (especially when combined with epinephrin) is relatively inefficient when applied to mucous membranes. Apothesine may also be used for spinal anesthesia. Its absolute toxicity is less than that of cocain (as 20 is to 15, see table below) but about twice that of procain (as 20 is to 40, see table below). It is non-irritant, is easily soluble and makes a stable solution so that it may readily be sterilized.

The Council took exception to certain claims made by Parke, Davis & Company for their product on the ground that these claims were not supported by acceptable scientific evidence. One of the claims was that Apothesine is applicable in any case in which any other local anesthetic is used. This statement, made in many advertisements, is distinctly misleading as used. When applied to mucous membranes Apothesine is far inferior to cocain and to some other local anesthetics, yet the claim obviously suggests that Apothesine is an efficient substitute for any local anesthetic.

The manufacturers claimed, too, that Apothesine is as potent as cocain. The claim would lead the physician to think that Apothesine had the same anesthetic potency as cocain in solution of equal strength. This statement, so far as it refers to the drug when applied to mucous membranes, is not in accord with the facts and is true for injection anesthesia only when stronger solutions are used. The only support for the claim of equal efficiency appears to be the experiments with intracutaneous injections made by H. C. Hamilton[1] in Parke, Davis & Company's laboratory. These

1. The Comparative Values of Some Local Anesthetics by H. C. Hamilton, Detroit, Mich., from the Research Laboratory of Parke, Davis & Co., J. Lab. & Clin. M. 4: 60 (Nov.) 1918.

differed considerably from the results of Sollmann.[2] A further series of experiments were made by Sollmann to compare still further the diverse results previously reported by him and Hamilton. The latest series, while showing considerable variations in the susceptibility of different skin areas, especially toward Apothesine, demonstrated in every case that the efficiency of Apothesine is unmistakably lower than that of cocain, being at best one half. The series also showed that the potency of Apothesine was never greater than procain and averaged considerably below it.

Another claim made for Apothesine which the Council holds is not supported by evidence is that of superior safety. This claim is made on the basis of hypodermic injections in guinea-pigs carried out in the laboratory of Parke, Davis & Company. Such experiments prove little because of the fact—well known to laboratory workers—that the use of rodents in toxicity tests made by injecting a drug into the subcutaneous tissues does not give a reliable index of the relative toxicity of such a drug for man. This is due partly to the peculiar resistance of rodents to poisons and partly to the great importance of the rate of absorption. The organism destroys most local anesthetics so rapidly that the rate of absorption is more important than the absolute dose. The absorption from hypodermic injections into guinea-pigs differs, of course, from that in clinical accidents, especially where the drug has been applied to mucous membranes. One cannot, therefore, reliably estimate the degree of clinical danger on animals.

It has been shown that when toxicity tests of local anesthetics are made on cats these animals seem to respond to the drugs in a manner more closely approximating humans and it is a suggestive fact that the more toxic of local anesthetics, as shown by tests on cats, have been found the most dangerous in clinical use. The *absolute* toxicity of Apothesine has been measured by Eggleston and Hatcher[3] by the intravenous injection in cats. The fatal doses, in terms of milligrams per kilogram ranged as follows:

| | |
|---|---|
| Alypin, Holocain | 10 |
| Beta Eucain | 12.5 |
| Cocain | 15 |
| Apothesine | 20 |
| Tropacocain | 20—25 |
| Stovain | 25—30 |
| Nirvanin | 30—35 |
| Procain | 40—45 |

The *absolute* toxicity of Apothesine is, therefore, only a little lower than that of cocain, and is twice as great as that of procain. The *clinical* dangers cannot be predicted by either method, since clinical accidents depend, in most instances, on idiosyncrasies, or the technic of application.

## DIAL "CIBA"

### Report of the Council on Pharmacy and Chemistry

Dial "Ciba" has not been accepted for "New and Non-official Remedies" because, as the report which follows shows, unwarranted claims are made for the product. It is a definite new chemical compound which might be made eligible for N. N. R. if misleading therapeutic claims were eliminated. The Council directed that Dial "Ciba" be included with Articles Described but Not Accepted, so that physicians might be informed with regard to its character and properties.

W. A. PUCKNER, Secretary.

Dial "Ciba" is a hypnotic manufactured by the Society of Chemical Industry of Basle, Switzerland, and is sold in the United States by A. Klipstein and Company, Inc., New York. Chemically, Dial "Ciba" is diallylbarbituric acid and is, therefore, closely related to diethylbarbituric acid or barbital ("veronal").

The claims made for Dial "Ciba" are (1), that the "allyl" group in its molecule makes it more readily decomposed by oxidizing agents than barbital, which contains the "ethyl" group; (2) that because of this ease of oxidation, it is more readily decomposed in the body and more rapidly and completely eliminated, and (3) that because of its alleged rapid elimination, it is devoid of the after effects of barbital and other hypnotics.

The Council took up the substance in February, 1918, and referred the matter to the referee in charge of barbital preparations. The referee considered unwarranted the claim that Dial "Ciba" did not have the after-effects of other hypnotics due to its alleged total decomposition in the body. The American agents, A. Klipstein and Company, were informed of the referee's objections. Their attention was also called to the fact that, nothwithstanding the claimed absence of after-effects in one part of the advertising, other parts of the same advertising admitted certain post-hypnotic effects of the product. It was pointed out also that while it was claimed in one of the advertising circulars that lowering of the blood pressure is never observed after administration of Dial "Ciba," yet two of the authors quoted in the same circular definitely stated that a lowering of the blood pressure followed even small doses of the drug and these authors warn against this very danger in certain conditions.

A year later, a circular letter sent out by A. Klipstein and Company reiterated the claim that the asserted decomposition of Dial "Ciba" in the body prevents after-affects, the drug being still contrasted with barbital ("veronal"). In view of the reiteration of this highly improbable claim, the referee undertook to study the comparative action of Dial "Ciba" as compared with other hypnotics. It was found that the actions of Dial "Ciba" are not distinguishable, qualitatively, from those of barbital, there being no perceptible difference in the after-effects or in the nature of the side actions. In toxic doses, both caused profound depression with the temperature falling to that of the room (or about one degree above), the respiration being extraordinarily slow and shallow as one would expect with lowering of the temperature. There were also the same evidences of nausea that are so frequently seen after toxic doses of the various hypnotics of this group. In view of these results, the Council declared that it is unwarranted to claim freedom from after-effects for Dial "Ciba."

The Council held that the following statement is unwarranted:

"The therapeutic field for Dial 'Ciba,' as shown by tests on rabbits, is just as broad as the field for Diethylbarbituric Acid."

Tests on rabbits do not and cannot show the breadth of the therapeutic field for a hypnotic. The Council also declared the following statement improbable, and contrary to the evidence obtained by the referee:

"In dogs, the increase of dosage beyond the therapeutic dose to the point of death is decidedly in favor of Dial 'Ciba,' which required a larger dose [than diethylbarbituric acid] to produce death."

The referee's experiments on cats show that Dial "Ciba" is several times as toxic as hydrated chloral, and more than twice as toxic as diethylbarbituric acid (barbital).

Since the circular to which objection was made in 1918 was still being sent out in December, 1919, the Council held Dial "Ciba" inadmissible to N. N. R. and voted that report of its action in the matter be authorized for publication. The Council further directed that Dial "Ciba" be included with Articles Described but Not Accepted.

2. Comparative Efficiency of Local Anesthetics, V, by T. Sollmann, from the Pharmacological Laboratory of the School of Medicine, Western Reserve University, J. Pharmacol. & Exper. Therap. **11**: 69 (Feb.) 1918.

3. A Further Contribution to the Pharmacology of the Local Anesthetics by Eggleston and Hatcher, from the Department of Pharmacology, Cornell University Medical College, New York City, J. Pharmacol. & Exper. Therap. **13**: 433 (Aug.) 1919.

**Diphtheria Carriers.**—The person attending the patient should wear a double layer of gauze or other soft thin cloth across the mouth and nose as a face mask whenever near the patient so as to prevent the droplets containing the germs coming from the patient's mouth from entering and lodging on the mucosa of the mouth and throat of the attendant. Even though you may not contract the disease if the bacteria lodge in your throat, they may grow there and you may act as a carrier and thus spread the disease to others.—Keep Well Series No. 4, U. S. P. H. S.

# Correspondence

## "AMPUTATION ABOVE THE LEVEL OF ARTERIAL OBSTRUCTION IN ARTERIOSCLEROTIC GANGRENE"

*To the Editor:*—In THE JOURNAL, Dec. 6, 1919, p. 1760, Drs. Eisendrath and Bettman suggested that in arteriosclerotic gangrene (thrombo-angeitis obliterans) it would be advisable to amputate above the level of arterial obstruction, such obstruction to be determined by preliminary exposure of the femoral artery. It is recommended that the artery be ligated in its pulsating portion, and that amputation be performed at the same level. Reference is made to a case in which this was done, and diagrams show the presence of a thrombus in the common femoral artery and the point of ligation above the thrombus just below Poupart's ligament. In spite of the high amputation, there was some gangrene of the flaps.

This condition is one in which the surgeon after the operation frequently feels that whatever may have been the level he has chosen for the amputation, he has erred. If he obtains primary union without gangrene of the flaps, he wonders if possibly he has not made his amputation too high; and if gangrene of the flaps results, he thinks he should have amputated at a higher level.

In an amputation of the thigh below the hip, the question of a few inches more or less of stump is of extreme importance. It is generally conceded that amputation higher than 3 inches below the great trochanter is almost worse than useless from the standpoint of hip motion of an artificial limb, so that the surgeon should in every case make a strenuous effort to get a stump of satisfactory length. I have amputated in the middle of the thigh, and have been compelled to reamputate a few inches of stump because gangrene of the flaps did not leave sufficient skin to cover over exposed bone; but even after the secondary operation, the length of the stump was satisfactory. Sight is lost of the fact that this is a chronic condition affecting chiefly main trunks and their terminal branches, and that a fair collateral circulation is established before the patient is operated on. Were this not so there would frequently be complete gangrene of the leg, something I have never seen in this condition. The superficial femoral artery and its terminals, the anterior and posterior tibials, are often occluded, the deep femoral (profunda) rarely. It is this artery with its branches that will usually take care of the nourishment of a fair sized thigh stump. I am of the opinion that had the amputation in the case mentioned been a few inches lower, leaving the profunda (which in the diagram is free of thrombus) to take care of the circulation, no gangrene of the flaps would have occurred, and the patient would have had a serviceable stump, which today he probably has not; even if some gangrene of the flaps had occurred, the amount of limb that had to be sacrificed in a reamputation might still have been so small that the final result would have been good.

I have amputated below the knee, when there was no pulsation distal to the common femoral, and when permission to do a primary high amputation could not be obtained; in spite of complete occlusion of the anterior tibial with practically no bleeding from any part of the cut surface, I have frequently had satisfactory healing of the stump.

Primary union is something to be hoped for in these cases, but not expected as a routine. End-results count; and if for the sake of obtaining primary union without any gangrene of flaps we sacrifice length of stump when length is important, as in the upper thigh, the patient suffers.

That a thrombus from the femoral may extend into the iliac and thence to the iliac of the other side is, of course, a possibility. Dr. Eisendrath mentions such a case, but this complication must be so rare as hardly to enter into the formation of a judgment as to the proper level for amputation.

Bearing on the subject, I wish to refer to a case in which I recently operated for gangrene of the foot, with no pulsation lower than the common femoral. The patient requested amputation below the knee, with the understanding that if after doing this I thought it necessary to reamputate higher, I might do so. On amputation below the knee there was absolutely no bleeding. Both tibials were firmly occluded. I then amputated through the thigh about 8 inches below the hip and found the superficial femoral artery completely occluded. There was, however, some bleeding from branches of the deep femoral artery, not enough to make one sanguine of the result; but I preferred to chance it rather than go higher and get a useless stump. The result was all that could be desired, healing being by primary union. It seems to me that in these conditions it pays to give nature a chance, or, to put it another way, it pays to let the patient run a little extra risk.

LEO B. MEYER, M.D., New York.

## THE PERCENTAGE OF NECROPSIES

*To the Editor:*—There were two interesting communications in THE JOURNAL, Dec. 6 and Dec. 27, 1919, by Drs. Francis Carter Wood and Joseph C. Doane, respectively, relative to the low percentage of necropsies performed in our large hospitals, following the interesting paper, Sept. 20, 1919, by Douglas Symmers. The following report for the year 1919 from the City and County Hospital, St. Paul, shows that there are some hospitals which have a fairly high percentage of necropsies: total number of deaths during 1919, 608; necropsies granted by the coroner, 29; by permission from relatives obtained by the superintendent, 61; by permission obtained from relatives through the house physician, house surgeon and assistant superintendent, 154; total number of necropsies performed, 244; percentage of necropsies performed, 40.1 + per cent.

G. B. Kramer, M.D., St. Paul.
Resident Pathologist, City and County Hospital.

## ADDISONISM

*To the Editor:*—This affection has been included under the general term chloasma; yet though it may be a form of this, it is of so definite and specific a nature that it deserves to be considered as a special entity. In Sutton's "Diseases of the Skin," page 494, there is an illustration of this condition as an unusual type of chloasma. In this affection, as the name implies, certain portions of the face acquire a pigmentation akin to the bronzing of Addison's disease, but limited in its distribution and varying in its tint from light fawn to a dark tan. The characteristic feature of this pigmentation is its symmetrical distribution, most commonly limited to the cheeks on and external to the malar prominences. In well marked cases the pigment is also deposited in semilunar patches above the eyebrows, conforming to their lines and connecting in the median line with a central frontal patch, while from another patch in the center of the chin there extends a circumoral ring.

The local treatment does not differ from that for chloasma and need not be discussed, as the interest of this affection lies in its probable etiology.

I have assumed that we have here a pigmentation that is an expression of hyporenalism, and in a form by no means rare. On an average, three or four cases a year come under observation, and all thus far have been in females. Careful inquiry into the history of the last twelve cases shows that four of the patients were affected with hereditary syphilis; four with tuberculosis, at present latent; two showed evidence of malnutrition but no evident disease, and two were apparently healthy. Their ages ranged from 11 to 23 years, and the pigmentation had been present from six months to three years. The color is usually deposited slowly, but may appear somewhat suddenly, as in one instance in which it became apparent one week after a severe tonsillar operation. How long it may persist when left to nature I am unable to say, as all I have seen have come for the removal of the pigment.

The association of Addison's disease with tuberculosis is well established; but whether addisonism is due to actual

tuberculous deposits in the suprarenals or is the result of diminished function consequent on the toxemia has yet to be determined.

The syphilitic cases are interesting, as we have here an expression of pigmentation that is probably akin in its origin to the coppery pigmentation characteristic of the acquired disease. It seems highly probable that the pigmentation in acquired syphilis is wholly due to the disease inhibiting the normal secretion of the suprarenals.

In a leading article in THE JOURNAL, Nov. 29, 1919, attention was called to experiments that suggest that arsenic has a selective action on the suprarenals, and proof of this is afforded by the occasional occurrence of typical Addison's disease after arsphenamin injections. Color is further lent to this probability by the frequent appearance of increased pigmentation around syphilitic lesions in the arsenical treatment of syphilis.

ANSTRUTHER DAVIDSON, M.D., Los Angeles.

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### RECENT LITERATURE ON SOCIAL MEDICINE AND SOCIAL INSURANCE

*To the Editor:*—I am wondering whether it is consistent for me to request of you references to the leading articles on social medicine and medical insurance which have appeared during the past year. Where can I find a good discussion of the work of the medical insurance act in England?

JOHN SUNDWALL, M.D., Minneapolis.

ANSWER.—The following articles on social medicine have appeared in current medical literature for the past year:


Wortman, J. L. C.: Reform in Social Medicine, *Nederlandsch. Tijdschr. v. Geneesk.* **2:** 1675 (Nov. 23) 1918.

Sand, René: Rise of Social Medicine, *Mod. Med.* **1:** 189 (July) 1919

Glaister, J. N.: A State Medical Service, *Lancet* **197:** 751 (Oct. 25) 1919.

Fairfield, W. E.: Business Evolution and the Future of Private Medical Practice, *Illinois M. J.* **36:** 250 (Nov.) 1919.


The following articles on health insurance have appeared in current medical literature in 1919:


Whalen, C. J.: Health Insurance, *Illinois M. J.* **35:** 1 (Jan.) 1919.

Stern, Isadore: Health Insurance, *Pennsylvania M. J.* **22:** 391 (March) 1919.

Hoffman, F. L.: Health Insurance and the Public, *Pennsylvania M. J.* **22:** 664 (July) 1919.

Rott, O. M.: Arguments Against Compulsory Health Insurance, *Northwest Med.* **18:** 81 (May) 1919.

Ballinger, J. R.: Compulsory Health Insurance, *Illinois M. J.* **35:** 9 (Jan.) 1919.

Fairhall, Joseph: Compulsory Health Insurance, *Illinois M. J.* **35:** 12 (Jan.) 1919.

Ochsner, E. H.: Compulsory Health Insurance, *Illinois M. J.* **35:** 3 (Jan.) 1919.

Verney, L.: Health Insurance in Different Countries, *Policlinico* (sez. prat.) **26:** 817 (June 29) 1919.

Lapp, J. A.: Health Insurance, Its Disadvantages and Advantages, *Pennsylvania M. J.* **22:** 661 (July) 1919.

Warren, B. S.: Health Insurance, Medical Profession and Public Health, Including Results of Study of Sickness Expectancy, Pub. Health Rep. **34:** 775 (April 18) 1919.

Harris, M. L.: National Health Insurance, *Illinois M. J.* **35:** 10 (Jan.) 1919.

Cunningham, W. P.: Health Insurance, Socialistic Subjugation of Medical Profession, *Delaware State M. J.* **10:** 8 (April-June) 1919.

Downing, A. F.: Study of Health Insurance in Relation to History of Two Countries Where It Has Found Most Favor, *Boston M. & S. J.* **180:** 433 (April 17) 1919.

Stanton, E. M.: Compulsory Health Insurance: Its Promises and Its Dangers, *Med. Rec.* **96:** 749 (Nov. 8) 1919.


In addition to the literature for the past year, the following articles and pamphlets will be of interest to the student of health insurance:


Social insurance pamphlets issued by the Council on Health and Public Instruction of the American Medical Association, 535 North Dearborn Street, Chicago:

Pamphlet I. Workmen's Compensation Laws, from the Report of the Judicial Council of the American Medical Association for 1915.

Pamphlet II. Social Insurance, the Report of the Special Committee of the American Medical Association for 1916.

Pamphlet VI. Medical Organization Under Health Insurance, by Dr. Alexander Lambert, New York.

Pamphlet VII. Statistics Regarding the Medical Profession, compiled by the Committee on Social Insurance.

Pamphlet XI. Social Insurance, Report of the Special Committee of the American Medical Association for 1919.

Reports of special commissions on social insurance. (These may be secured by writing to the secretary of the committee at the state capital).

Report of the Massachusetts Special Committee on Social Insurance, February, 1917, House Document 1850; Jan. 15, 1918, Senate Document 244, Boston.

Report on Health Insurance by the New Jersey Commission on Old Age Insurance and Pensions, 1917.

Report of the Wisconsin Special Committee on Social Insurance, January, 1919, Madison, Wis.

Report of the Social Insurance Commission of the State of California, Sacramento, March, 1919.

Report of the Health Insurance Commission of Pennsylvania, Harrisburg, January, 1919.

Health, Health Insurance and Old Age Pensions, Report of the Ohio Health and Old Age Insurance Commission, Columbus, February, 1919.

Report of the Connecticut Commission on Public Welfare on Social Insurance, Hartford, 1919.

Report of the Health Insurance Commission of the State of Illinois, Springfield, May 1, 1919.


The following pamphlets have also been issued:

FOR INSURANCE


Health Insurance Standards and Tentative Draft of an Act, American Association for Labor Legislation, 131 East Twenty-Third Street, New York City.

Health Insurance, Its Relation to Public Health, Bull. 76, U. S. P. H. S.

Social Insurance, address of Arthur Hunter, president of the Actuarial Society of America, reprinted from the Transactions of the Actuarial Society of America **17**, Part 2, No. 56.

Address of Governor Samuel W. McCall to the two branches of the legislature of Massachusetts, Jan. 4, 1917, Boston.

Sickness Insurance or Sickness Prevention, Research Report 6, National Industrial Conference Board, 15 Beacon Street, Boston.

Addresses and Papers on Insurance, by Rufus M. Potts, Insurance Superintendent, State of Illinois, Springfield, Ill.

Proceedings of the Conference on Social Insurance, Dec. 5 to 9, 1916, Bull. 212, U. S. Bureau of Labor Statistics, Washington, D. C.


AGAINST INSURANCE


Social Insurance, address delivered by William Gale Curtis at the Convention of National Association of Casualty and Surety Agents.

Compulsory Health Insurance, address before the legislative hearings in New York and Massachusetts, by Magnus W. Alexander, West Lynn, Mass.

Social Insurance, a Report of the Committee on Insurance of the Chamber of Commerce of the State of New York, New York Chamber of Commerce, 65 Liberty Street, New York.

Facts and Fallacies of Compulsory Health Insurance, an address before the American Association for the Avancement of Science, by Frederick L. Hoffman, LL.D., Statistician, the Prudential Insurance Company of America.

A Refutation of False Statements in the Propaganda for Compulsory Health Insurance by the Committee of the National Civic Federation, October, 1919. New York City, 33d Floor, Metropolitan Tower. Price, 25 cents.

Fallacies of Compulsory Social Insurance, by Edson S. Lott, President of the United States Casualty Company, 80 Maiden Lane, New York.

Arguments Opposing the Idea of Enacting a Compulsory Health Insurance Law in Illinois, by the Health Insurance Committees of the Illinois State Medical Society and the Chicago Medical Society, reprinted from the Illinois M. J. **35,** January, 1919.


For editorials, articles and correspondence on the working of the British Health Insurance Act, see the files of the *British Medical Journal* and the London *Lancet* from 1910 to date.

### VLEMINCKX' SOLUTION

*To the Editor:*—Will you please send me the prescription for Vleminckx' solution as used by Dr. William A. Pusey for verrucae and described by him in an article under Clinical Notes, etc., in THE JOURNAL, Jan. 10, 1920, p. 97? I am unable to find the liquid described in any of my textbooks on the skin.

H. W. KENFIELD, M.D., Lawrence, Mich.

*To the Editor:*—Will you kindly inform me what Vleminckx' solution contains?

F. J. W., Freeburg, Mo.

*To the Editor:*—Will you kindly forward me the formula for Vleminckx' solution?

J. L. DACH, M.D., Reeder, N. D.

ANSWER.—This solution appears in the National Formulary. It is also known as Liq. Calc. Sulphurat., the solution of oxysulphuret of calcium, and as Vleminckx' Lotion. It is made thus:

| | |
|---|---|
| Calcium oxid | 165 gm. |
| Sublimed sulphur | 250 gm. |
| Water, the completed mixture to make | 1,000 c.c. |

Shake the calcium oxid, mix it with the sulphur and add the mixture gradually to 1,750 c.c. of boiling water. Boil this mixture, with frequent agitation, until it is reduced to 1,000 c.c. and maintain this volume while boiling one hour, by the addition of water from time to time. Cool and strain

the mixture and having allowed the solution to become clear by standing in a stoppered bottle, decant the clear brown liquid, and preserve it in completely filled and well stoppered bottles.

### "ALLEGED PLACENTAL FUNCTIONS"

*To the Editor:*—The editorial comment on "Alleged Placental Functions" (THE JOURNAL, Dec. 6, 1919, p. 1774) caused me to wonder whether any experiments had ever been made on the cow, which, being a herbivorous animal, eats the placenta immediately after its passage. It has always occurred to me that the cow must have good and sufficient reasons for doing this. L. C. AUDRAIN, M.D., Mazatlan, Mexico.

ANSWER.—It is generally known that rabbits, horses, pigs and cows eat the placenta. We are unable to find any references to experiments performed on these animals to demonstrate the effect that would follow if the animal should be prevented from eating the placenta. The subject is rather well summarized in THE JOURNAL, Jan. 3, 1920, p. 47. The United States Department of Agriculture, Bureau of Animal Industry, replies to the question, saying that one reason that leads certain animals to eat the placenta is an instinct to destroy this structure so as to leave no evidence of parturition. The eating is done as a matter of protection against predatory animals, and as an instinctive measure to keep such animals from locating the newly born young. It is also suggested that most animals are usually very hungry after parturition, and this perhaps explains why the placenta is eaten. On the whole, it may be said that the reason for eating the placenta has never been adequately demonstrated, and experiments on feeding placental tissue to human beings are very inconclusive.

### TUBERCULOUS POULTRY

*To the Editor:*—Nov. 26, 1919, I bought a chicken (drawn) in a nearby market, and when it was dressed my attention was called to the size of the liver. On examination, both liver and spleen appeared to be tuberculous. A laboratory report shows tubercle bacilli from both organs. The chicken was sold for a spring hatched bird.

E. C. MCGEHEE, M.D., Stevenson, Minn.

ANSWER.—This phase of meat inspection has not been given special attention by the United States government or by most city departments of health, probably for the reason that a tremendous force would be necessary to inspect dressed chicken that came to the market. The transmission of tuberculosis from fowls to man is practically negative, owing to the fact that proper cooking renders the fowl, if affected, harmless. It seems likely that almost any housewife would notice marked tuberculosis in the livers of poultry being prepared for the table.

Chicago has a city ordinance, which reads:

No cased, blown, plaited, raised, stuffed, putrid, impure, unhealthy, or unwholesome meat, fish, bird or fowl shall be held, bought or sold or offered for sale for human food, in any place in said city. Every person or corporation who shall violate any of the provisions of this section shall be fined not less than twenty-five dollars nor more than one hundred dollars for each offense.

### BLACK TONGUE

*To the Editor:*—What is the treatment of black tongue (nigrities linguae)? J. L. RAVITTS, M.D., Montezuma, Iowa.

ANSWER.—The cause of the condition is unknown. No pathogenic organism has been found to account for it. It usually disappears spontaneously in time. It may last for only a few weeks or a few months, or it may persist for years. Cleanliness and antiseptic mouth washes may be of service. Nothing is gained by scraping or destroying the elongated papillae. Such measures simply produce apparent benefit by getting rid for the time being of the cause of the blackness.

### LEGAL DECISIONS ON BURNS FROM HOT-WATER BOTTLE

*To the Editor:*—I have a case coming up in court next June, in which it is alleged that a patient in my hospital was burned by a hot-water bottle. It is quite similar to the one published in THE JOURNAL, Dec. 27, 1919. I would appreciate it very much if you will refer me to other cases that have been published in which the supreme court decision is similar. X. Y. Z.

ANSWER.—Reports of decisions on similar cases were published in THE JOURNAL, March 8, 1919, p. 754; June 9, 1917, p. 1775; April 8, 1916, p. 1162, and Nov. 2, 1912, p 1650.

## *Medical Education, Registration and Hospital Service*

### COMING EXAMINATIONS

ALASKA: Juneau, Mar. 2. Sec., Dr. L. O. Sloan, Juneau.

CALIFORNIA: Los Angeles, Feb. 16-19. Sec., Dr. Chas. B. Pinkham, 906 Forum Bldg., Sacramento.

CONNECTICUT: New Haven and Hartford, March 9-10. Sec., Reg. Bd., Dr. Robert L. Rowley, Hartford. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Sec., Eclectic Bd., Dr. James Edwin Hair, 730 State St., Bridgeport.

ILLINOIS: Chicago, Mar. 1-3. Director, Mr. Francis W. Shepardson, Springfield.

INDIANA: Indianapolis, Feb. 10-13. Sec., Dr. W. I. Gott, 84 State House, Indianapolis.

KANSAS: Topeka, Feb. 10. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 9-10. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, March 9-11. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

NATIONAL BOARD OF MEDICAL EXAMINERS: St. Louis and Chicago, Feb. 18-25. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia, Pa.

NEW HAMPSHIRE: Concord, March 11-12. Sec., Dr. Charles Duncan, Concord.

NEW YORK: New York City, Albany, Buffalo, Jan. 27-31. Asst. Professional Examinations, Mr. H. J. Hamilton, Albany.

VERMONT: Burlington, Feb. 10-12. Sec., Dr. W. Scott Nay, Underhill.

WYOMING: Thermopolis, Feb. 2-4. Sec., Dr. J. D. Shingle, Cheyenne.

### PLUMBOPATHY

#### A Satire on Cults in Medicine

The editor of the Fresno (Calif.) *Republican,* some six months ago, evidently feeling in a pleasantly bitter mood, took his pen in hand and turned out the following comment on the new school of plumbopathy:

"PLUMBOPATHY

"We rise again to protest! Examinations were held in Fresno last night for plumbers' licenses. No one is permitted to practice plumbing in California without such a license. And all the examinations are in the complete control of the regular or plumbopathic school. This is a rank discrimination against the disciples of other plumbing faiths.

"The plumbopathic school, for instance, holds to the doctrine that air has pressure, and that an air outlet, properly connected, is therefore necessary behind every water seal, to keep the pressure on the two sides equal. Shall persons who do not believe in air pressure be deprived of their constitutional liberty to choose a plumber of their own suckopathic school, who will make the connections all the way to the sewer unvented, to increase the suction? The plumbopaths also believe that when the water stops running from a faucet, there is some obstruction in the pipe leading to that faucet. Shall we give them the legal right to exclude from practice the aeroplumbs, who teach that it is due to the wind blowing in the wrong direction? When the pipe joints leak, also, it is plumbopathic therapy to repack the screw threads with red lead. Shall this procedure be imposed on a householder who believes that they ought, instead, to be packed in ice, to contract the metal, and shall he be denied his liberty to call in a practitioner of the gelopathic school?

"Moreover, why should plumbers be examined on their practical knowledge of pipes and metals and joints, and of the legal requirements for installing them? These pipes and joints are not the ultimate Truth of plumbing. They are merely its proximate manifestations. On the plane of the Absolute, all Plumbing is Water. The ingress and egress of Water is the Supreme Significance of Plumbing. But water is no mere immediate Fact. It is derived from the melting snows of the Providential Mountains, or from the raindrops of the Heavenly Clouds. And these are but manifestations of the Force of the Sun. Therefore, considered absolutely, and not relatively, water is Sun, Helios. Shall the practitioners of Heliodic Science be required to divert their attention from these high contemplations to mere material pipes and wrenches, as a condition of treating errors of plumbing by Heliogenic absent treatment?

"We suggest that the dissenting plumbers and their potential customers form a League for Plumbing Freedom, to demand of the legislature equal recognition for all schools of plumbing, and especially to exempt from examination on the theory and practice of plumbing all persons who have conscientious scruples against such knowledge, and who believe that plumbing can be done better without it."

Presumably the powers that be could not see the matters in the same way that our editorial colleague sees it. So recently he has again dipped his pen in a well of gall and wormwood:

"UNJUST DISCRIMINATION

"We are moved once more to register our annual protest against the pending examinations for plumbers' licenses. It is seriously proposed that no one shall practice plumbing in Fresno unless he knows plumbing, and that his competency shall be established by examination before a sectarian board, all of whose members but one are orthodox plumbers, and that one is an educated physician.

"What chance has a graduate of the aeropractic correspondence school of plumbing before such a board? There should be a referendum to the people, on a law authorizing the aeropractors to license themselves, on such educational qualifications as they are able to come up to. What right have these orthodox plumbers to examine candidates on hydrostatics and sanitation, or to test their knowledge of pipes and fixtures, or their skill in installing and repairing them? The aeropractors have testimonials showing a lot of people who never had any orthodox plumbing in their houses, and are still alive. Is it not an interference with religious liberty to confine the practice, in Fresno, to the one sect which knows pipes, fixtures and sanitation, and does its work with trained skill and in accordance with the ordinances?

"It is not the rights of the aeropractors alone that are involved. Even they are relatively materialists. Since the purpose of plumbing is to remove stench, their technic is to let the wind blow it away, or to install electric fans to help out the wind, in closed places. But there are more spiritual practitioners of the plumbing art who demonstrate that there is no such thing as stench. Stench is a sensation; not a fact. Sensation is a function of the mind. And since stench is a disagreeable sensation, it may exist in the mind but not in Mind. The remedy, therefore, is to raise mind to Mind, by the perusal of the textbook on Spiritualized Sanitation. This proposed plumbing examination is an intrusion on the liberty of conscience of all disciples of the Spiritual Sanitarians.

"If there is to be any such arbitrary requirement, we submit that there should be provision for a certificate of conscientious objection for those who do not wish to comply with it. Otherwise we shall be discriminating unjustly in favor of educated plumbers, by requiring education of their competitors. An educational qualification is undemocratic, in a community in which there are more people who do not know plumbing than there are who do know it. Let the majority rule!"

May we add our mild protest to what our colleague has written. Plumbing should not be restricted to the few. We demand the right to use our own system of intensive mental plumbing. If our pipes freeze up and break and we want to give Nature a chance to heal the wound, we object to having Mr. Dingbat, on the floor below, come up and complain that the secretions are dripping into his baby's bed and the child cannot sleep. There is such a thing as individual freedom and justice in this world, and we propose to have it.

## California June Examination

Dr. Charles B. Pinkham, secretary of the California State Board of Medical Examiners, reports the oral and written examination held at San Francisco, June 23-26, 1919. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 80 candidates who took the physician's and surgeon's examination, 65, including 1 osteopath, passed, and 15, including 7 osteopaths, failed. Seventy-seven candidates were licensed by reciprocity. Two candidates were granted osteopathic reciprocity certificates. One candidate received a drugless healer license, and 9 candidates were granted licenses to practice chiropody. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| University of Arkansas | | (1918) | 89.9 |
| College of Medical Evangelists (1919) 83.7, 86.8, 91.7, 91.9, *. | | | |
| College of Physicians and Surgeons, Los Angeles (1919) 75, 75.7, 76.4, 78.9, 79.7, 82, 82.5, 82.9, 84.4, 84.7, 87.7, 88.2, 88.4, 88.5, 89, 89.7, 92, 92, *, *, *, *. | | | |
| College of Physicians and Surgeons, San Francisco | | (1919) | 76.8, 82.8 |
| Leland Stanford Junior University (1919) 81.8, 82.7, 82.9, 84.7, 84.9, 85.5, 88.3, 88.3, 88.8, 89.2, 95.1, 95.7. | | | |
| Oakland College of Medicine and Surgery | | (1919) | 83.5, 88.1 |
| Northwestern University | | (1918) | 89.8 |
| Rush Medical College (1919) 79.5, 84.8, 89.5. | | | |
| University of Kansas | | (1918) | * |
| Harvard University | | (1916) | 90.2 |
| University of Michigan Homeopathic Medical School | | (1918) | 84.8 |
| University of Minnesota | | (1919)** | 79.8 |
| St. Louis University | | (1919) | 85 |
| Columbia University | | (1918) | 93.1 |
| Jefferson Medical College | | (1918) | 89.8 |
| University of Pennsylvania | | (1918) | 83, 88 |
| Baylor University | | (1919) | 90.1 |
| Kyoto Perfecture Special Medical School | | (1905)† | 77 |
| Nippon Special Medical School | | (1910)† | 75.3 |
| National Homeopathic School of Medicine | | (1907)† | 75 |
| National School of Medicine | | (1897)† | 90 |
| McGill University | | (1905) | 88.9 |
| University of Zurich | | (1917) | 80.7 |
| | FAILED | | |
| College of Physicians and Surgeons, Los Angeles (1918) 67.7, 67.9, 71.2. | | | |
| College of Physicians and Surgeons, San Francisco (1918) 51.7, 62.4, (1919) 72.8. | | | |
| Kentucky School of Medicine | | (1906) | 65 |
| Johns Hopkins University | | (1917) | 70.9 |

| College | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| Hahnemann Medical College of the Pacific | | (1904) | Alaska |
| Denver and Gross College of Medicine (1905) Utah, | | (1909) | Colorado |
| Howard University | | (1904) | Dist. Colum. |
| Atlanta College of Physicians and Surgeons | | (1905) | Georgia |
| Bennett College of Eclectic Medicine and Surgery | | (1906) | Iowa |
| Chicago College of Medicine and Surgery | | (1913) | Indiana |
| | | (1918) | Illinois |
| College of Physicians and Surgeons, Chicago | | (1903) | Oregon |
| | | (1904) | N. Dakota |
| Hahnemann Med. Coll. and Hosp., Chicago. | | (1905), (1917) | Illinois |
| Northwestern University (1894) Illinois; (1906) Colorado, (1912) Illinois, Oregon. | | | Illinois, |
| Rush Medical College (1894) Iowa, (1897) Illinois, (1903) (1904) Indiana, (1906) Illinois, (1913) Minnesota. | | | Utah |
| University of Illinois | | (1914) | Illinois |
| Eclectic Medical College of Indiana | | (1903) | Indiana |
| Keokuk Medical College | | (1907) | Iowa |
| State University of Iowa College of Homeo. Med. | | (1903) | Iowa |
| State University of Iowa College of Medicine | | (1893) | Nebraska |
| College of Physicians and Surgeons, Kansas City. | | (1898) | Minnesota |
| Kansas Medical College | | (1906) | Kansas |
| University of Louisville | (1895) Oregon, | (1900) | Washington |
| | | (1914) | Kentucky |
| Baltimore Medical College | | (1908) | New York |
| Johns Hopkins University | (1905) Alabama, | (1914), | Maryland |
| Harvard University | | (1903) | Mass. |
| Detroit College of Medicine | | (1902) | N. Dakota |
| Univ. of Michigan Med. School (1883) Minnesota, | | (1890) | Ohio |
| | (1911), | (1917) | Michigan |
| University of Minnesota College of Med. and Surg. | | (1906) | Minnesota |
| University of Minnesota Homeopathic Med. Dept. | | (1903) | Minnesota |
| Eclectic Medical University, Kansas City | | (1912) | Arkansas |
| Kansas City Medical College | | (1905) | Kansas |
| Marion-Sims Beaumont Medical College | | (1902) | Oregon |
| Marion-Sims College of Medicine | | (1893) | Iowa |
| Medico-Chirurgical College of Kansas City | | (1905) | Missouri |
| University Medical College, Kansas City | (1902), | (1907) | Kansas |
| | | (1913) | Missouri |
| John A. Creighton Medical College | (1907) Oregon, | (1917) | Nebraska |
| Long Island College Hospital | (1893), | (1899) | New York |
| Cornell University | | (1906) | New York |
| University of Buffalo | | (1898) | Penna. |
| Eclectic Medical Institute | | (1901) | Kansas |
| Starling Medical College | | (1896) | Ohio |
| Willamette University | | (1907) | Oregon |
| Jefferson Medical College | (1897) Washington, | (1910) | Utah |
| University of Pennsylvania | (1899) Penna., | (1906), (1911) | New York |
| Western Pennsylvania Medical College | | (1901) | Penna. |
| Vanderbilt University | (1908) Montana, | (1913) Iowa, (1917) | Tennessee |
| University of Nashville | (1886), | (1906) Montana, | Tennessee |
| | | (1909) | Tennessee |
| University College of Medicine, Richmond | | (1900) | Washington |
| University of Vermont | | (1907) | Washington |

* No grade given.

** Granted M.B. degree in 1919 after completing four year course; will receive M.D. degree after completing his intern year.

† Credit allowed for years of practice.

## Nebraska February and June Examination

Mr. H. H. Antles, secretary of the Nebraska Department of Public Welfare, reports the oral, written and practical examination held at Lincoln, Feb. 13, 1919. The examination covered 12 subjects and included 100 questions. An average of 70 per cent. was required to pass. Of the 52 candidates examined, 51 passed and 1 failed. Fourteen candidates were licensed through reciprocity. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| John A. Creighton Medical College (1917) 88. (1919) 78, 81, 81, 82, 82.5, 82.5, 82.5, 83, 83, 83, 83, 83, 83, 83.5, 85, 86, 88. | | | |
| University of Nebraska (1918) 82. (1919) 79, 79.5, 81, 82, 83, 83, 83, 83, 83, 83, 83.5, 84, 84, 84, 85, 85, 85, 85.5, 86, 86, 86, 86, 86, 87, 87, 87, 90, 92, 92, * (1920) 85, 86. | | | |
| Columbia University | | (1915) | 82 |
| | FAILED | | |
| Loyola University | | (1917) | ** |

| College | LICENSED THROUGH RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| University of Colorado | | (1918) | Colorado |
| Chicago College of Medicine and Surgery | | (1918) | Illinois |

| | | |
|---|---|---|
| Hahnemann Medical College and Hospital, Chicago | (1906) | Illinois |
| Loyola University | (1917) | Illinois |
| Northwestern University | (1904) | Illinois |
| University of Illinois | (1915) | Illinois |
| Louisville Medical College | (1907) | Kentucky |
| Ensworth Medical College | (1910) | Missouri |
| National University of Arts and Sciences | (1917) | Missouri |
| University Medical College of Kansas City | (1900) | Missouri |
| Long Island College Hospital | (1915) | New York |
| New York University | (1896) | New York |
| University of Oklahoma | (1911) | Kansas |
| Dallas Medical College | (1903) | Texas |

* Completed work of medical curriculum in 1918, degree to be conferred in February, 1920.
** No grade given.

The oral, written and practical examination held at Lincoln, June 30, 1919, covered 12 subjects and included 100 questions. An average of 70 per cent. was required to pass. Of the 11 candidates examined, 9 passed and 2 failed. Twenty-one candidates were licensed through reciprocity.. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| St. Louis College of Physicians and Surgeons | | (1919) | 85, 88 |
| Lincoln Medical College | | (1918) | 88 |
| Eclectic Medical College, Cincinnati | | (1919) | 84, 86, 86, 89.5. |
| Jefferson Medical College | | (1917) | 85, (1919) 88 |

| College | FAILED | Year Grad. | Per Cent. |
|---|---|---|---|
| Loyola University | | *(1917) | 76 |
| Lincoln Medical College | | *(1918) | 75 |

| College | LICENSED THROUGH RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| Leland Stanford Junior University | | (1914) | New York |
| Bennett College of Eclectic Medicine and Surgery | | (1905) | Illinois |
| Bennett Medical College | | (1911) | Tennessee |
| Chicago College of Medicine and Surgery | | (1915), (1917) | Illinois |
| College of Physicians and Surgeons, Chicago | | (1905) | Oklahoma |
| Hahnemann Medical College and Hospital, Chicago | | (1907) | Illinois |
| Rush Medical College | | (1892), (1916) | Illinois |
| Albany Medical College | | (1870) | Illinois |
| Columbia University | | (1900) | New Hampshire, (1913) New York |
| Johns Hopkins University | | (1912) | Maryland |
| Tufts College Medical School | | (1909) | Iowa |
| Barnes Medical College | | (1904) | Missouri |
| St. Louis College of Physicians and Surgeons | | (1918) | Tennessee |
| St. Louis University | | (1914) | Missouri |
| Washington University | | (1917) | Missouri |
| Cleveland University of Medicine and Surgery | | (1897) | Ohio |
| Medical College of Ohio | | (1890) | Minnesota |
| Meharry Medical College | | (1909) | Missouri |

* Fell below the required average in one or more subjects.

### New Mexico July Examination

Dr. R. E. McBride, secretary of the New Mexico Board of Medical Examiners, reports that one candidate was licensed by examination, ten candidates were licensed by endorsement of their diplomas, and one candidate was licensed by reciprocity at the meeting held July 14, 1919. The following colleges were represented:

| College | LICENSED BY EXAMINATION | Year Grad. |
|---|---|---|
| University of Oklahoma | | (1919) |

| College | ENDORSEMENT OF DIPLOMAS | Year Grad. |
|---|---|---|
| University of Arkansas | | (1916) |
| Hospital College of Medicine, Louisville | | (1903) |
| University of Louisville | | (1908) |
| Baltimore Medical College | | (1892) |
| St. Louis College of Physicians and Surgeons | | (1913) |
| St. Louis University | | (1919) |
| Pulte Medical College | | (1891) |
| Western Reserve University | | (1910) |
| Meharry Medical College | | (1912) |
| Medical College of Virginia | | (1911) |

| College | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| College of Phys. and Surgs., Chicago | | (1903) | Kansas |

### South Carolina June Examination

Dr. A. Earle Boozer, secretary of the South Carolina State Board of Medical Examiners, reports the written examination held at Columbus, June 10-12, 1919. The examination covered 19 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 39 candidates examined, 29, including 3 osteopaths, passed and 10, including 1 osteopath, failed. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| Atlanta College of Physicians and Surgeons | | (1912) | 75 |
| Atlanta Medical College | | (1915) 88.9, (1917) | 81.2 |
| Emory University | | (1918) | 76.6 |
| University of Georgia | | (1917) 86.1, 86.2, (1919) | 87.1 |
| University of Louisville | | (1917) | 84.2 |
| Johns Hopkins University | | (1919) | 92.1 |
| University of Maryland | | (1918) 79.6, | 84.7 |
| Boston University | | (1919) | 89 |
| Harvard University | | (1918) | 88.1 |
| Jefferson Medical College | | (1919) | 93.1 |
| University of Pennsylvania | | (1918) | 89.4 |
| Medical College of the State of South Carolina | | (1919) 82, 84.4, 86.1, 87.2, 87.4, 87.6, 87.6, 87.9, 90.2, 91.2. | |
| University of Tennessee | | (1915) | 81.9 |

| College | FAILED | Year Grad. | Per Cent. |
|---|---|---|---|
| Birmingham Medical College | | (1915) | 68 |
| University of Georgia | | (1906) | 69.5 |
| College of Physicians and Surgeons, Keokuk | | (1877) | 67.9 |
| Leonard Medical School | | (1911) | 64.4 |
| University of Oklahoma | | (1915) | 69.4 |
| Med. Coll. of the State of South Carolina | | (1901) 68.7, (1911) | 69 |
| Meharry Medical College | | (1909) 72.6 (1911) | * |

* No grade given.

## *Social Medicine and Medical Economics*

### SOME FUNDAMENTAL DEFECTS INHERENT IN COMPULSORY HEALTH INSURANCE*

E. M. STANTON, M.D.
SCHENECTADY, N. Y.

The fact that the medical profession of New York State and of the entire country is a practically unanimous unit in condemning compulsory health insurance bills of the type proposed by the American Association for Labor Legislation is almost prima facie evidence that the great majority of practitioners realize more or less clearly that there is something fundamentally wrong with the project..

If we are to oppose compulsory health insurance we must be able to formulate our objections into definite terms, and it is my object in this paper to outline some of the more fundamental objections to compulsory health insurance. The time allowed will permit of my taking up only one or two of the defects which are inherent in the proposed legislation. I shall, however, attempt to show that some of the defects are so fundamental as to be inseparable from the entire problem of sickness insurance, be it intended for the rich or for the poor. I believe that it can be very clearly shown that when we talk about fire, life or marine insurance we are talking about insurance the value of which is self-evident to all who have studied the question; and, on the other hand, it should be equally clear that when we approach the subject of sickness insurance we encounter economic problems so entirely different from those encountered in standard insurance propositions that the very name of insurance is scarcely applicable in the field of so-called health insurance. In this connection, it is well to note that the so-called experts of the American Association for Labor Legislation have for at least six, and probably ten, years been struggling with the problem of trying to devise a workable bill, and that to date they have made a complete failure. This in itself should be at least presumptive proof that there may be something radically wrong with the materials with which they are trying to work.

#### STANDARD INSURANCE PROPOSITIONS

The proponents of compulsory health insurance tell us that fire insurance and life insurance are recognized as being of the very greatest economic and social value and that, therefore, health insurance is equally valuable. The fact remains, however, that up to the year 1919 sickness insurance has not been able to take its place alongside of fire and life insurance. There must be some good reasons why sickness insurance has always remained a weak sister in the insurance family, and I believe that it will be worth our while to spend a few minutes in trying to ascertain the

* Read before the Fourth District Branch of the Medical Society of the State of New York, Plattsburg, Nov. 18, 1919.

reasons why sickness insurance requires compulsion, 50 per cent. subsidies, and various other tonics to make it a going proposition.

In this world of ours the difference between a good and a bad bargain is usually determined by the returns one gets for the money spent; and in the ultimate analysis, insurance is not an exception to this general rule. The economic value of insurance is determined by the magnitude of the risk assumed and by the expected frequency of the event against which the insurance is carried.

Insurance against death is a typical example of insurance of unquestioned economic value. The death of the head of the family is an irreparable damage. The chances of this occurring in any given unit of time are small. For instance, between the years 20 and 42 the risk for any one year is less than 1 in 100. Term life insurance during the years of the average man's economic activity costs only about $1 a year for each $100 of protection.

Fire insurance is more universal than life insurance, and this is because from a purely economic point of view it is even more valuable than life insurance. In fire insurance the ratio between cost and protection is for the average risk about $1 premium per annum for $600 worth of protection.

Marine insurance is another form of universally recognized insurance. It is not necessary to go into the question of marine insurance rates, but it will be of interest to note that during the palmiest days of the Hun submarine when marine insurance was considered to have become almost prohibitive, the rates for this form of insurance were actually only one-quarter that which is normally necessary to charge in the case of the best risks insured under health insurance.

### SICKNESS INSURANCE

The moment we turn to sickness insurance we find conditions absolutely different from those encountered in fire and life insurance. Death occurs but once in the experience of the insured, fires are rare, and the destruction is in most cases total. Sickness, however, is almost a regular incident in the life of a family.

The economic value of insurance decreases as the occurrence against which the insurance is carried becomes more frequent and the distribution more uniform. To illustrate this, suppose that each individual could count on being sick once a year. Then it would be the height of folly to attempt to carry yearly term sickness insurance because, from the very nature of things, the returns from this insurance could only be the amount of the premiums paid less the overhead costs of conducting the insurance. Stripped of superfluous detail, this is the insurance problem actually encountered by the so-called model bill of the American Association for Labor Legislation. The Illinois report shows that out of 215 families investigated by the Bureau of Labor Statistics, 212 had sickness during the year. It is therefore, I believe, self-evident that if the expectation of sickness in the average American working man's family is to be in the neighborhood of 98 per cent. per annum, there is then no question but that as a strict business proposition it would be better for each family to become its own insurer and thereby save the overhead expenses which are unavoidable with all forms of insurance.

At this point it might be well to note the fact that by far the best family health insurance policy yet devised is obtained by setting aside a certain portion of the family income as a savings bank account. The savings bank family health insurance policy is 104 per cent. efficient as compared with the 60 or 70 per cent. efficiency of the best private company sickness insurance and an estimated possible efficiency of about 85 per cent. for state controlled compulsory insurance.

If we dismiss the universal health insurance of the type proposed in the so-called model bills and turn our attention to the limited wage-earner type of compulsory health insurance as illustrated in such bills as the Davenport bill, we are at once confronted by certain definite facts. The chance of the individual worker's becoming sick during the year is not 1:100, or even 1:50, but, as shown by the Illinois report and other studies, approximately 1:5. This fact itself makes straight sickness insurance a very costly proposition. In fact, the ratio between cost and possible benefit is such as to make it scarcely an insurance question at all. The normal cost of insurance covering only loss of wages must, of necessity, be at a rate which makes it almost prohibitive and, I believe, scarcely justifiable as an insurance proposition in any but special circumstances.

For purposes of study we can take one of the best sickness insurance policies ever offered, which is that of the General Electric Mutual Benefit Association of the Schenectady works. The company contributes the overhead costs of maintaining this insurance. During the past six years the policy holders of this association who have been sick have received an average benefit of $18.54, and the average premium paid has been $3.83, which gives a ratio of premium to expected benefit of $1 premium to $4.84 benefit, with a maximum possible protection of $21.94 for each dollar paid as premium.

Owing to the fact that the compulsory insurance of the Davenport bill type covers different periods of sickness and loads a large share of the expense on the first week of illness, it can be readily shown that had the 5,276 who have received sick benefits under the General Electric Mutual Benefit Association been insured under the Davenport bill, they would have received only $2.24 in benefits for each dollar paid as premium. Even with the company paying one half of the premium the ratio would still be $4.84 for the General Electric Mutual against only about $4.48 for compulsory insurance. Any trade by which the working man of Schenectady gives up even a fraction of his present liberty for a return of a loss of 36 cents in benefits for each dollar paid for health insurance seems too preposterous for serious consideration.

### EXCESSIVE COST OF COMPULSORY HEALTH INSURANCE

The question of excessive cost is really the root of practically all the difficulties encountered by the compulsory health insurance advocates. By excessive cost I do not mean that the total would be beyond the reach of the American working man if he were offered a really good value for the money spent. I have heard it said that compulsory health insurance will cost only from 2 to 4 per cent. of the workman's income. Figured on the $12 a week basis of the Davenport bill, the benefits could cost not less than 7 per cent. of the $12 a week wage; but this is entirely beside the question. The really important thing is that the insurance is itself so costly in proportion to the benefits that it is not a good buy for the working man. Consequently, for the workman himself to be compelled to pay for state controlled sickness insurance giving the benefits promised by the Davenport bill, or similar bills, is entirely out of the question. The American working man simply would not submit to any such form of compulsion. His business instincts are entirely too good.

The question of costs at once forced the compulsory health insurance advocates to some sort of subterfuge, and the scheme adopted is to attempt to bribe the working man by some sort of promise of something for nothing. In the case of the Davenport bill, this takes the form of compelling the employer to pay one half or more of the costs of the so-called insurance. To beguile the working man into accepting the

compulsion part of the program, even this promise of half for nothing is not sufficient, and the Committee on Health of the New York State Federation of Labor has adopted a policy of claiming that the total expenses for administering the benefits of the law will be only about one half what they must of necessity be if the benefits are actually to be given to the insured.

History is a long, long story; and in this story the policy of something for nothing has been tried many, many times always with the same results. Is there any reason to expect a different result when it is tried in the guise of compulsory health insurance?

### THE PARTIES INVOLVED

There are really four parties directly interested in the compulsory health insurance proposition. They are the working man, the public, the employer and the medical and allied professions.

The working man is to get the something for nothing. The public is represented by the voters, and it is from the very first self-evident that it is useless to ask politicians to compel the public to pay the something which is to be given for nothing. The state might be induced to contribute a small part, but I am certain that every man in this audience will agree with me when I say that the proposition to make the public pay half of the cash and other benefits promised by such bills as the Davenport bill is too preposterous for serious consideration.

We still have two parties left, and the compulsory health bills do actually claim to select the employer to serve in the rôle of the something for nothing contributor.

The compulsory health insurance advocates tell us that compelling the employer to pay for health insurance is only a natural step from the principles of the compensation legislation. This is not true, because the compensation legislation compels industry to pay only for the direct damage done by industry. In order for compulsory health insurance of the Davenport bill type to give fundamental justice at least approximately one half of sickness must be due to industry. In this world of ours it is best to recognize facts as they are; and in this case the fact is that industry cannot properly be charged with one one-hundredth part of ordinary sickness.

The meaning of all this is self-evident. The so-called compulsory health insurance is not health insurance at all, but only a thinly veiled scheme for forcing charity on a portion of the community which neither requires nor desires charity. At the same time the people who ordinarily need charity—those chronically ill, the unemployed, the aged, the widow, the orphans—are not provided for at all. In fact, they will be much worse off; for the available resources of the community will have been used up in forcing charity on the man with the job. I believe that history will fail to show a single example of a law forcing charity on employed working men which has not worked out to the detriment of the working man and served ultimately to enslave him.

### CONTROL BY EMPLOYERS

I wish now to call attention to another inevitable difficulty which was bound to confront the compulsory health insurance advocates the minute they undertook to finance, by means of a subterfuge, a scheme which could not stand on its own feet. The very minute you find a bill that says that the employer must pay one half or more of the costs of a measure you can be assured that somewhere in that bill you will find provisions giving the employer one half or more of the control of the machinery which will work the measure. This is so of the Davenport bill and will be so of all bills depending on an employer subsidy to furnish the something for nothing. It is the inevitable price that must be paid for the deception; and from what I know of employers I am perfectly certain that in the long run the employer will find some way of getting his money back with interest and that the price to be paid by the workman for this something for nothing will be actually greater, or I might say worse, than if the whole transaction were strictly honest from the beginning.

If we turn to the Davenport bill we find in Article 1, Section 3, exempted from the workings of the bill, "all those employees for whose benefit an employer, in the judgment of the industrial commission, maintains at his own cost and without resource to insurance, a system, fund, or plan, which guarantees to such employees benefits substantially the same as benefits they would receive if insured under the provisions of this system." Does any one here believe that this would mean health insurance? No, it would mean that our larger companies would be forced by the exigencies of the law to return to the long ago discarded plan of the company doctor with all the evils and dissatisfaction attendant thereon.

The company doctor is an old plan. We do not have to repeat history with this experiment, which has never been able to survive in this country, except in frontier camps and localities not yet adequately supplied with independent physicians.

The so-called Health Committee of the New York State Federation of Labor claims that ample provision is made for the democratic control of all locals by the employee members; but in Article 4, Section 60, of the Davenport bill we find that "each employer member shall have as many votes for representatives of employers on the board of directors as he employs workmen who are employee members of such fund." Also in Section 55 we find that the boards of directors shall consist of "not more than seven directors which shall consist of an equal number of directors representing employee members, and an equal number representing employer members, and one director in addition." It is not difficult to predict in advance who would really control these boards.

The remaining party that will inevitably be compelled to contribute liberally to the something for nothing, namely, the medical profession, is not represented on the boards at all. There has been considerable talk about minimum provisions to insure adequate protection for the medical profession, but in my opinion the ultimate fate of the medical profession will be determined not by any little details of amendments, but by the great underlying structure on which the legislation is based. Just as long as the entire structure of compulsory health insurance is built on a deception and a false promise of something for nothing, then unless history reverses itself and human nature changes, the medical profession will find itself called on to support the very foundations of a structure which from its birth was destined to be incapable of supporting itself. No possible good can come to the medical profession from getting mixed up in a scheme which from the very start is little else than a dishonest subterfuge.

### CONCLUSION

The fact should be emphasized that the moment we are forced to admit that the burden of compulsory health insurance cannot be borne by the insured, then the problem automatically becomes one more related to charity than to insurance. By no stretch of the imagination can the machinery proposed for compulsory health insurance be conceived of as an efficient method for the distribution of charity. The great political army of directors, secretaries, clerks, inspectors and others who would be called into being by compulsory health insurance is entirely too inefficient and expensive a proposition to be substituted for our present scientific development of state medicine and management of the charity problem.

511 State Street.

# Miscellany

## LEON DAUDET AND HIS RECOLLECTIONS OF HIS MEDICAL COLLEGE

Among the deputies elected to the French chamber in November was Léon Daudet, who has written considerably on medicine in general, on the medical profession and, more particularly, on the celebrated physicians of Paris.

Daudet is a son of the noted author, Alphonse Daudet. Although Léon Daudet, the son, also has become an author, he was originally destined for the medical profession. For seven years he pursued his medical studies at the Paris Faculty of Medicine and passed all his examinations but did not support a thesis, which is an indispensable requirement for the degree of doctor of medicine. He had even been appointed, first extern and then provisional intern, at the Hôpitaux de Paris, but he did not achieve the full title of intern. He soon after broke off his relations with the Faculty of Medicine, and in 1894 he published a book, the mere title of which gives an insight into the mentality of its author. The title of his book was, "Les Morticoles" (The Morticulturists), that is, cultivators of death. This pamphlet was directed against the professors of the Paris Faculty of Medicine. The statement has been made that in this pamphlet, breathing violence and rudeness, as it does, Léon Daudet has given vent to the malice he entertained toward some of his former teachers who had not shown him all the consideration to which he felt he was entitled. Be that as it may, Daudet has recently called up his memories of his period of medical study in an interesting and more carefully prepared volume entitled, "Devant la douleur" (In the Face of Pain), in which the silhouettes of a great number of savants and well known physicians and surgeons pass in review, many of whom are no longer of this world: Charcot, Brouardel, who was a former dean of the Paris Faculty of Medicine; Bouchard, Brissaud, Potain, the great heart specialist; the surgeons Tillaux, Richet (father of the physiologist, Charles Richet), Lucas-Championnière, Péan, Doyen; the famous syphilologist, Alfred Fournier; the anatomists, Farabeuf and Poirier; the gynecologist, Pozzi; the embryologist and histologist, Mathias Duval; the military surgeons Kelsch and Villemin, and others. A number of living colleagues are also mentioned, among whom are Babinski and Professors Debove, Charles Richet and Albert Robin.

It is true that Daudet's recent book, also, is full of the exaggerations and the violent language that characterize the pamphleteer, and a number of the character sketches that he draws are in reality only caricatures; for example, when he refers to Péan beginning his day's work in the operating room: "The skilled wielder of the scalpel cuts off three legs, two arms, disarticulates two shoulders, trephines five skulls, removes as if it were child's play half a dozen uteri together, with the adnexa, and takes out several pairs of ovaries. . . . At the end of two hours of this exercise he was dripping with blood and sweat. His hands, or, I should say, his paws, were as red as those of an assassin; his feet were soaked in life's red stream; yet, withal, he was as merry as a marriage bell. And why not? Had he not performed his function here below—to cut, to open, to resect, to bone and to eviscerate?" However, as in all caricatures, a certain basic truth can be discovered. It wasn't for naught that the students had nicknamed Péan *"le père coupe-toujours"* (Father Everet Cutting), and the regretted Professor Grasset once told me of having been present at one of these operative sittings, at which, on inquiring of Péan what his diagnosis was in the case of the patient who was about to be operated on, received from him the reply: "That is just what we are going to find out by opening the abdomen."

The critics have been very unjust to Léon Daudet in stating that he has ridiculed all the French representatives of the medical profession. Far from it. Daudet speaks in respectful, even affectionate, terms of Villemin, justly celebrated for his work on the contagiousness of tuberculosis. He refers to him as "a scholar possessing an admirable character in every respect." Of Professor Kelsch he says: "He combined with an irresistible medical instinct the highest scientific culture." Tillaux, the surgeon, he thinks, possessed "excellent heart qualities; was a sure practitioner and a man of unquestionable integrity." Farabeuf, the anatomist, was gifted with "genius and the power of exposition;" "was devoted to his work and to science in general;" was not open to flattery, and shunned all corrupt practices and intrigue; "rarely did ever a man despise more than he money and conventional honors." Daudet also seems to have carried away with him an exalted recollection of the service of Lucas-Championnière at the Hôtel-Dieu Hospital. This surgeon was the first in Paris to apply rigorously antiseptic and aseptic surgery. He operated without haste, always showing himself very considerate "of the limbs and tissues of his patients." Of Mathias Duval, professor of embryology, he says: "He was a very clear lecturer. One always had the feeling that he had left nothing unsaid that should have been said. His history of the development of the human ovum was most admirable." As regards character, he gave one the feeling of serenity combined with force, of possessing "a loftiness of spirit that held him aloof from corrupt practices and faculty intrigues, and caused him to flee from the clatter of voices and the bestowal of praise. . . . He was one of the most beautiful and noble characters that France has produced in the field of science."

But Professor Potain comes in for an even greater share of Daudet's admiration; in fact, his book, Devant la douleur, is dedicated "to the exalted memory" of Potain. Daudet enjoyed the privilege of knowing the celebrated clinician very intimately. "Providence," he says, "afforded me for several years the opportunity of direct contact with this great teacher, and allowed me to listen reverently to his advice and counsel." As a clinician he was extremely resolute. He spoke and acted like a man who had a sense of his own true worth. When called at the same time as Charcot to the bedside of Alphonse Daudet, who was suffering from a severe bronchitis, he recommenced the auscultation that his illustrious colleague had just finished without paying any attention to Charcot's remark: "But I have just finished— . . ." "Nowhere could one learn the pathology of the heart and the blood vessels, the premonitory signs of tuberculosis and of interstitial nephritis as one could in his class room. It was interesting to see him perform auscultation. He would listen long and intently at one spot; would wait some time and then begin again. . . . Not a murmur, nor a purr, not a triple sound, though never so slight, escaped him. His hearing was not outclassed even by Cooper's Indians." He was also a man of great kindness of heart, which inured to the benefit of his surroundings. On one occasion a convalescent patient, who was in very straitened circumstances, was preparing to leave Potain's service. Just as he was leaving, Potain slipped a 500 franc note in his hand, and having done so Potain beat a hasty retreat, as if guilty of theft, not waiting to hear the man's expressions of gratitude.

Daudet knew intimately also Professor Charcot, who was a friend of his father, Alphonse Daudet. He pays homage to the sagacity of the clinician, and praises his immense erudition and his genius as an observer. Charcot was an indefatigable worker who spent at times a great part of the night studying into some problem pertaining to pathologic anatomy, or in working out the details of some schema, such as his famous graphic representation of the diverse forms of aphasia. But—quite the contrary of Potain, all of whose intellectual forces were directed toward the alleviation of pain—Charcot seemed to assume a disdainful attitude toward therapeutics in general. "He considered the disorders of the human machine much as an astronomer views the movements of the stars." He was very dictatorial and could not endure contradiction. According to Daudet, whenever he thought that any one had presumed to contest any of his medical doctrines with respect to hysteria major, aphasia, multiple sclerosis, etc., he became furious and violent. The situation in which those studying under him found

themselves was not exactly comfortable. A certain amount of initiative, and a certain amount of originality, even, he would accord them, provided their initiative and their originality did not clash with the opinions and theories of the master. Any derogatory references to the doctrines that he had established were considered rank treason and were punished as such.

### A NEW PRESERVATIVE FOR CADAVERS

The introduction of phenol (carbolic acid) in 1864 as a preservative for anatomic material, followed by glycerol in 1867 and by formaldehyd in 1890, revolutionized research in anatomy. The miracle wrought by these and other chemicals in rendering the dissecting room relatively odorless has been of incalculable comfort to students and teachers. However, none of these substances is ideal, and anatomists have continually sought for a substance which would not only preserve the delicate tissues without the production of odor, and be nontoxic and nonvolatile, but also be inexpensive, and not require renewal. Experiments recently reported by Myer (*Science*, Dec. 19, 1919, p. 570) appear to indicate that liquid petrolatum may be utilized as a preservative for cadavers. It extracts practically nothing from the tissues. It softens and later protects the epidermis which, after thorough impregnation with the substance, resists drying much better than if other preservatives had been used; and the eyelids, nose, digits, lips, ears and genitalia do not require such careful protection during dissection. Material stored in petrolatum for more than two years is practically odorless, and appears to be in identically the same condition as when immersed. On removal, the material need drain only a few minutes when it is ready for wrapping. The specific gravity of the oil is low, so that bodies readily sink in it. Inspection of the material in the tanks is easy. So long as there is sufficient oil in the tanks, all material is hermetically sealed and there is no subsequent loss from evaporation. The initial cost of the oil is not large and, since it can be used over and over, its use ultimately is economical. Fire risks are negligible. Phenol may be added to the oil if desired, although there appears to be no necessity for it.

### HEALTH AS A DISEASE

"Avoid extremes" says an ancient proverb. The following editorial from the Gary (Ind.) *Times* applies the saying to the health faddist:

There is a great deal of truth in the satirical story of Jiggins, who had the health habit. Jiggins lived twenty years ago, and health was a disease with him. The Dallas *News* says that Jiggins took a cold plunge every morning. He said it opened his pores. After it he took a hot sponge. He said it closed the pores. He got so that he could open and shut his pores at will.

Jiggins used to stand and breathe at an open window for half an hour before dressing. He said it expanded his lungs. He might, of course, have had it done in a shoe shop with a boot stretcher; but, after all it cost him nothing this way. And what is half an hour?

After he had got his vest on, Jiggins used to hitch himself up like a dog in harness and do shadow exercises. He did them forward, backward and hind-side up.

He could have got a job as a dog anywhere. He spent all his time at this kind of thing. In his spare time at the office he used to lie on his stomach on the floor and see if he could lift himself up with his knuckles. If he could, then he tried some other way until he found one that he couldn't do. Then he would spend the rest of his lunch hour on his stomach, perfectly happy.

In the evenings, in his room, he used to lift iron bars, cannon balls, heavy dumb bells and haul himself up to the ceiling with his teeth.

He liked it.

He spent half the night slinging himself around his room. He said it made his brain clear. When he got his brain perfectly clear he went to bed and slept. As soon as he awoke he began clearing it again.

Jiggins is dead. He was, of course, a pioneer; but the fact that he dumbelled himself to death at an early age does not prevent a whole generation of young men from following in his path.

They are ridden by the health mania.

They make themselves a nuisance.

They get up at impossible hours. They go out in silly little suits and run marathon heats before breakfast. They chase around barefoot to get the dew on their feet. They hunt for ozone. They bother about pepsin. They won't eat meat because it has too much nitrogen. They won't eat fruit because it hasn't got any. They prefer albumin and starch to huckleberry pie and doughnuts. They won't drink water out of a tap. They won't eat sardines out of a tin. They won't use oysters out of a pail. They won't drink milk out of a glass. They are afraid. Yes, sir, afraid. Cowards!

And after all their fuss they presently incur some simple, old-fashioned illness, and die like anybody else.

## Book Notices

ORGANIZATION OF PUBLIC HEALTH NURSING. By Annie M. Brainard. Cloth. Price $1.35. Pp. 144 with 11 illustrations. New York: Macmillan Company, 1919.

This, the first handbook of a contemplated series on the subject, bears the endorsement of the National Organization for Public Health Nursing. Written by a lay woman, the work gives a clear insight into organization and executive requirements for efficient efforts in its field. In addition to the presentation of general principles, special details and statistical data gained from experience are introduced. The scope of the manual is indicated in the table of contents: the need of organization; fundamental principles; forms of organization; the nurses' part in organizing; organizing public health nursing in a new community; boards of directors; committee on finance; committee on nurses; the supply committee; records and statistics; reorganization. The term "public health nurse" is defined as a generic term including district nurses, school nurses, factory nurses, tuberculosis nurses, child welfare nurses, and all nurses engaged in social or settlement work as distinguished from private duty or institutional nurses.

TEACHING THE SICK. A Manual of Occupational Therapy and Re-Education. By George Edward Barton, A.I.A., Director of Consolation House. Cloth. Price, $1.50. Pp. 163 with illustrations. Philadelphia: W. B. Saunders Company, 1919.

The lessons conveyed in this concise handbook were learned in the school of experience. The author is "self made," for earlier in life he won a victory over his own physical handicaps. No attempt has been made to produce a textbook on the reeducation of military and industrial cripples; the manual discusses broad principles, and special methods which may serve as illustrations. The modest desire is apparent to dispel prevalent misconceptions fostered by amateur enthusiasts, for in the mind of the author, occupational therapy presents two sides: one, education; the other and more important, therapeutics. It is not sufficient, then, that one be a craft teacher: one should have experience with pain, sickness and disability to qualify as a competent "occupational therapeutist." The treatise is worth reading for its good advice and many helpful hints.

LA TRICOMONOSIS INTESTINAL. Por el Dr. Edmundo Escomel, Delegado de la Facultad de Medicina, Paris. Paper. Pp. 78, with illustrations. Lima: Sanmarti y Ca, 1919.

The author began his study of trichomoniasis in 1898. Recently he received a prize from the Academy of Medicine of Paris for this work. In this pamphlet he summarizes the history, distribution, pathogenicity, etiology, pathology, diagnosis, prognosis, clinical course and treatment of the disease. He claims to have demonstrated that the infecting organism, *Trichomonas intestinalis*, is pathogenic not only in the intestine but also in the vagina and gums, producing disorders which can be cured only after these organs have been treated with iodin.

# Medicolegal

### Parent Not Providing Medical Attention for Child

*(State v. Barnes (Tenn.), 212 S. W. R. 100)*

The Supreme Court of Tennessee reverses the judgment of the trial court and remands for further proceedings this case in which the trial court quashed an indictment which charged that the defendant unlawfully, wilfully and without good cause neglected and failed to provide for an infant child under the age of 16 years, according to his means, by suffering the child to sicken and die without proper treatment and medical attention. The supreme court says that it is the legal duty of the father to provide proper care, treatment, and medical attention for his child. If by reason of his breach of this duty the death of this child resulted, the father may be guilty of homicide. If one owes to another a plain particular and personal duty, imposed either by law or by contract, an omission, resulting in the death of the party to whom such duty was owing, usually renders the delinquent party guilty of a homicide. This proposition is very well established by authority. And this principle has been applied in cases of the neglect of the duty of a parent to care for his child, and to provide medical attention. As to whether a parent so neglecting his child is guilty of murder or of manslaughter would depend on the circumstances. If the neglect be wilful or malicious, it is probably a case of murder. If the omission is not malicious, and is a mere case of negligence, the parent is perhaps guilty only of manslaughter.

### Power to Require Blood Test of Milk Dealers

*(People ex rel. Schultz v. Hamilton, Commissioner of Public Safety, et al. (N. Y.), 177 N. Y. Supp. 222)*

The Supreme Court of New York, Appellate Division, Fourth Department, reverses an order that denied the relator's motion for a writ of mandamus to compel the issuance to him of a license to sell milk in the city of Rochester, which he had been refused because he declined to submit to a blood test for the purpose of determining whether or not he had ever had typhoid fever or was a carrier of typhoid germs. His application for a license was made first to the health officer of the city, and, secondly, to the commissioner of public safety. The court says that it might be assumed that the regulation for a blood test was not harsh or unreasonable, that it was salutary, and that either the legislature or the common council, by appropriate enactments, could make such a provision applicable generally to milk dealers in the city. In fact, the relator so expressly conceded, and admitted that, if such an enactment did exist, by either the legislature or the common council, he would have no remedy. But neither the legislature nor the common council had so enacted. The sole statutory requirement for lawful trafficking in milk and cream in the city was the possession of a license issued by the health bureau of the department of public safety of the city. The regulation was one devised by either the health officer or the commissioner of public safety. The local health officers were the commissioner of public safety, as head of the department of public safety, and, under him, the health officer; but the power to make general orders and regulations for the preservation of life and health and the execution of the public health law was vested in the common council of the city. That the regulation sought to be maintained for a blood test was one of general application could not be doubted. It was not aimed at the suppression of a nuisance, nor to meet any emergency situation. There was no typhoid epidemic, present or imminent. There was no special reason for believing that the relator either had typhoid or was a carrier of typhoid germs. This case seemed, therefore, to fall squarely within the provisions of the statute, requiring legislation by either the legislature or the common council to be effective. Quite evidently the scheme of all the legislation was to require the concerted action and judgment of more than one individual as a prerequisite to general regulatory measures, leaving in the commissioner and the health officer a discretion only in the manner of applying in detail those general regulations. The commissioner and health officer were administrative officials. They had no power to legislate. They might determine facts and conditions which made applicable the general regulations, and might even prescribe regulations for carrying into effect the general enactments of the appropriate legislative bodies. The discretionary power vested in these officers by the city charter to grant or withhold licenses related only to the limited powers of those officers as defined above, and did not create in them a legislative discretion. However salutary and desirable this particular regulation might be, it could not be given force and effect until the appropriate legislative body had enacted it in a lawful manner. That power so to enact had not been and could not be delegated.

### Descriptive Terms and Evidence in Abortion Case

*(State v. Patterson et al. (Kan.), 181 Pac. R. 609)*

The Supreme Court of Kansas affirms a judgment of conviction of the two defendants, physicians, who were convicted of manslaughter in the fourth and first degrees, respectively, the charge against them being that they had operated on a named woman to produce an abortion, thereby causing her death, while they asserted that the purpose of the operation was to remedy conditions brought about by a venereal disease from which she was suffering, and that she was not pregnant. The court says that complaint was made of a failure of the trial court to give an instruction to the jury under the section of the statute making it manslaughter in the second degree to administer a drug to a woman "pregnant with a quick child" with intent to destroy it, or to employ an instrument with that purpose, when the death of the child or mother resulted therefrom. But such an instruction would not have been proper under the information, which did not charge that the woman was "pregnant with a quick child," but alleged that she was "pregnant with vitalized embryo." The latter expression was not equivalent to that of the statute referred to. "Vitalized," merely means endowed with life. Any human embryo which is not dead is "vitalized." It is no less endowed with life before reaching the stage of development known as quickening than after. A woman is said to be pregnant with a quick child, or quick with child, when the motion of the fetus becomes perceptible, usually about the middle of the period of pregnancy. Not only was this condition not pleaded; it was not indicated by the evidence.

At a postmortem examination of the body of the woman, conducted by the defendants, the uterus was removed and placed in a jar of alcohol. At the trial they produced what they represented to be the same jar and contents, together with evidence that its appearance showed that the uterus was not that of a woman who had been pregnant. The court told the jury in substance that in order for the testimony of experts concerning the appearance of the uterus to have weight with them, they must first find from the evidence that no substitution had been made, that the organ produced was the one taken from the body, and that it had not been tampered with, but had been exhibited to the witnesses in the same condition as when first removed. This instruction was complained of, not as involving any incorrect statement of a principle of law, but as objectionable because it singled out for comment one particular feature of the testimony, and suggested to the jury that the court itself suspected substitution or alteration. But, granting that the specific reference to the question of the genuineness of the exhibit was open to the objection stated, it would not in itself justify a reversal of the judgment.

Several witnesses were permitted to testify that the woman had told them that she was pregnant, and was going to one of the defendants for an operation on that account. This evidence was objected to as incompetent, as being pure hearsay. But it has often been said by courts and text-writers that such testimony is admissible. Moreover, whether or not it was technically competent, the admission of evidence that the subject of the operation, who died as a result of it, had

stated that she was pregnant and was going to see the defendants on that account, was nonprejudicial because not inconsistent with the defense made, when the defendant's own version of the affair was that while the woman was really suffering from gonorrhea, and knew it, she had led her mother and neighbors to believe that she was pregnant, and that she was going to see the defendants on that account, her purpose being to conceal the fact that she had a venereal disease.

### Evidence and Timeliness in Action for Malpractice

*(Perkins v. Trueblood (Calif.), 181 Pac. R. 642)*

The Supreme Court of California, in reversing a judgment that was rendered in favor of the plaintiff, and remanding the case for a new trial, says that the court below tried the case without a jury, and made its findings in favor of the plaintiff, which in substance were that the plaintiff broke his leg in March, 1912; that the defendant was employed to reduce the fracture; that the fracture not satisfactorily healing, the defendant separated the surfaces of the bone during the month of April, 1912, and again set the plaintiff's leg; that the defendant performed the latter operation negligently; and that by reason of this the plaintiff had suffered damage in the sum of $1,250. The defendant's appeal presented the question of the sufficiency of the evidence to support the findings and also the question of the correctness of rulings admitting evidence concerning the plaintiff's condition and the defendant's surgical treatment of him prior to April 9, 1912. While the court's findings rested the plaintiff's cause of action on the defendant's negligent resetting of the plaintiff's leg in April, 1912, nevertheless it would seem that the trial court proceeded on the theory, and correctly so, that the negligence ultimately found against the defendant was dependent in a measure on the condition of the plaintiff's leg at the time of and subsequent to the setting of the original fracture, which occurred in March, 1912. On this theory, evidence relative to the original fracture, its treatment and progress, and process of its healing, was admissible, to the end that it might be determined whether or not the methods resorted to by the defendant in resetting the leg on or after April 9, 1912, were of a nature which an ordinarily skilful surgeon would have given to a leg in such a condition.

Furthermore, this being the theory of the case and the judgment, it followed that there was no merit in the contention that the commencement of the action, wherein the complaint was filed on April 9, 1913, was barred by Subdivision 3 of Section 340 of the Code of Civil Procedure, requiring such actions to be commenced within one year.

Attention is called to the fact that, in spite of the great suffering and financial loss claimed to have been endured by the plaintiff for a period of ten months following the last treatment by the defendant, it affirmatively appeared that the defendant was not requested to give any further treatment, and that the plaintiff failed to place himself under the care of any other surgeon. Moreover, with regard to the fracturing again of the same leg in the same place, when, as the plaintiff testified, he did not fall over 12 inches, and there was no evidence of any circumstance preceding or attending the fall, the supreme court thinks that, in view of the fact that a person may snap a perfectly sound leg in a fall of 12 inches or less, the claim that the defendant's negligence was the proximate cause of the second fracture, found, to say the least, very slight support from the facts revealed by the record; and, on this analysis of the case, the supreme court finds it difficult to consider seriously the claims advanced by the plaintiff.

There was some evidence which tended to show that at the time of the fall and the second fracture the ends of the broken bone overlapped nearly one-half inch, and that there was no complete bony union prior to the treatment by another physician for the final fracture resulting from the fall. In the absence, however, of a showing that such a condition would have been at least improbable, had the leg received reasonably prudent and ordinarily skilful surgical treatment, it could not be said that the mere pathologic condition of the leg in and of itself sufficed to show negligence on the part of the defendant in resetting the leg. In the absence of evidence, it could not be assumed that he proceeded, if he proceeded at all, without ordinary care or skill.

### Violation by Physician of Speed Law

*(People v. Seidler (N. Y.), 176 N. Y. Supp. 677)*

The Kings County, N. Y., court, in affirming a judgment of conviction, and of sentence of the defendant to a term of ten days in the county jail, for violation of the speed law, says that the defendant was a practicing physician, who admitted that he was operating his automobile at a rate of speed much in excess of the limit permitted by law, and on the hearing before the magistrate offered one excuse in extenuation of his act, and in this court submitted a different one. After the consequences of his act were forcibly impressed on him by his sentence, it was an easy matter for him to resort to the means which are available to a physician; but such carefully considered claims thus offered could have but little weight on this appeal. Were this his first violation of the speed law, an entirely different situation would present itself; but on five prior occasions he was arrested for similar violations in various parts of the city and by different officers. A physician has no rights on our highways superior to that of any other motorist. The law is no respecter of persons, and all must bow in obedience to it, and he who violates it does so at his peril. We can, however, readily understand that emergencies may occasionally confront a physician who may be called in a "life or death" case, wherein his haste to give relief can be partially excused or entirely overlooked. Such excuse, being ever present in the mind of a physician, may readily be used as a subterfuge to defeat the ends of justice. In this respect, reliance on the value of such form of defense must be placed on the magistrate hearing the evidence, who is in a position to gage properly its dependability. On the hearing in this case, the statements made by the defendant but vainly suggested extenuating circumstances, and the court properly disregarded them.

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## *Society Proceedings*

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### SOUTHERN MINNESOTA MEDICAL ASSOCIATION

*Annual Meeting, held in Mankato, Dec. 1 and 2, 1919*

DR. AARON F. SCHMITT, Mankato, in the Chair

### Surgical Treatment of Bunions

DR. C. H. MAYO, Rochester: Several methods of treatment are resorted to according to the conditions present. The usual operation performed is one which I advocated many years ago. A curved incision is made convexly upward over the inner side of the joint. The skin is deflected downward, the bunion bursa is dissected forward and the joint is opened, the bursa being left attached to the inner surface of the first phalanx. One-quarter inch of the head of the articulating surface is removed by bone saw or large bone-biting forceps. This relaxes the extensor and the flexor tendons. The bony projection on the inner side of the head of the great toe is removed, and the bunion bursa is turned into the joint and held by sutures of catgut which also serve to straighten the great toe, thus removing the valgus. The wound is closed without drainage. If flatfoot complicates, the head of the bone should be preserved. The bunion bursa, the overgrowth of bone and the sesamoid bones should be removed, however. If the hallux valgus is marked, the tendon of the extensor hallucis longus should be lengthened about one-fourth inch. If the great toe is bent downward, the sesamoid bones can be removed with a knife or sharp pointed scissors, if they are grasped with strong tenaculum forceps. The sesamoid bones and the articulating surface should not be removed from the same foot. The patients should be up at the end of the first week, using the heel and outer side of the foot. In from fourteen to twenty-one days, a stiff soled shoe may

be worn. Instructions should be given to every patient as to the size and shape of shoes to be worn following operation.

### Treatment of Second Stage of Labor, with Special Reference to Prevention of Injury to Child and to Pelvic Floor

DR. JOSEPH B. DE LEE, Chicago: Watchful expectancy and natural delivery will give the best results in the conditions in which the vast majority of births occur. The indiscriminate use of forceps, of pituitary solution and of forced delivery will do immeasurable harm. In primiparas and in multiparas, with rigid pelvic floor, I shorten the second stage artificially. When the head has reached the pelvic floor and the levator ani muscles have begun to stretch, I consider the advisability of interference. If the pains are strong, a few extra whiffs of ether or gas are given, and a deep episiotomy is made. The patient will then deliver herself; or if the pains lag, two or three drops of pituitary solution are given. Perineotomy is one of the most important parts of the prophylactic forceps, because it is intended to preserve the integrity of the pelvic floor, the subvesical fascia, and the urogenital septum; at the same time it prevents injury to the child's brain. The prophylactic forceps operation is a radical departure from time honored custom, but it has a sound scientific basis for recommendation. It also saves the woman the physical labor of a porlonged second stage. By relieving pressure on the child's brain, the occurrence of idiocy, epilepsy, etc., is lessened. Prophylactic forceps also prevent asphyxia, both in its immediate effects and its remote influence on the early life of the infant.

### Intrathoracic Goiter

DR. E. S. JUDD, Rochester: Intrathoracic goiter is one in which the greater part of the thyroid enlargement is situated within the thorax. Substernal goiter is one in which there is a projection of only a part of the thyroid into the chest. This type occurs in nearly 50 per cent. of the goiters coming to operation, while the intrathoracic type occurs in only 5 per cent. Histologically, the intrathoracic goiter is an adenoma, associated in many cases with colloid or carcinoma. The hypertrophied gland of the exophthalmic type is never seen in the totally intrathoracic goiter. There may, however, be a substernal projection from the exophthalmic goiter. The intrathoracic tumor in the benign cases is definitely encapsulated, and can usually be enucleated from its capsule without serious difficulty if the proper treatment is used. The symptoms caused by intrathoracic goiter are mainly the result of pressure on the surrounding viscera. They differ from the symptoms of ordinary cervical goiter only in their intensity. Intrathoracic goiter may be thyrotoxic. The intrathoracic goiter may be recognized by the feeling of a recurring mass when the patient swallows, if pressure is made in the episternal notch with the palpating finger. A finger placed in the pharynx may also make the diagnosis. Ptosis and fixation of the larynx are points in the differential diagnosis. The roentgen ray is of great aid. The operative prognosis is good, except in cases of prolonged toxicosis. The first steps in the operation are the same as in cervical goiter. The thyroid vessels should be divided on one or both sides. The upper pole is then freed. The lateral veins are now divided. Then by making traction on the upper pole, and gradually freeing the intrathoracic part with the finger, the whole lobe may be turned over onto the trachea. If the goiter seems adherent, it may be enucleated by thrusting the finger deep into the adenoma. After the whole gland is lifted into the neck, the inferior thyroid vessels may be handled without difficulty. One should be prepared to perform tracheotomy during and for the first few days following operation. In 150 cases of substernal and intrathoracic goiter occurring at the Mayo Clinic in 1918, the symptoms were of the pressure type. The tumor was on the left side in eighty-one cases, on the right side in forty-five cases, and in the middle portion of the gland in four cases. In sixteen cases, the condition was bilateral. There were 141 adenomas, one hypertrophy associated with adenoma, four carcinomas, and two colloid goiters with small adenoma. Three of the tumors originated from aberrant thyroids.

### Acute Perforations of Stomach and Duodenum

DR. N. O. RAMSTAD, Bismarck, N. D.: Perforations of the stomach are more dangerous than those of the duodenum, because of the more infectious character of its contents and the tendency toward general dissemination throughout the abdomen. The prognosis depends mainly on the time which elapses between the rupture and the operation. Undoubtedly, a small number of patients with acute perforation recover temporarily under medical treatment, or the "let alone" plan, but the number is small compared with the recoveries following prompt and efficient operation.

### Tuberculids in Recognition of Obscure Tuberculosis

DR. J. H. STOKES, Rochester: While the tuberculous character of tuberculids may be regarded as still open to discussion, the demonstration of their constant association with tuberculosis is now so nearly complete that the occurrence of typical lesions of any one of the various types of tuberculids has a high diagnostic value in the recognition of obscure forms of systemic tuberculous infection. An analysis of a group of patients in the Mayo Clinic has suggested the close association which may exist between erythema nodosum and purpura, and the papulonecrotic tuberculid. The records of the clinic now include a necropsy in a case of erythema nodosum in which death resulted from miliary tuberculosis, and yet no evidence of the existence of any focus of infection other than the tuberculous could be identified. Tuberculids, because of their close association with lymph gland tuberculosis, are often of service in the identification of the tuberculous character of adenopathies, mediastinal glandular enlargements, tuberculosis of the uterine adnexa, etc. The occurrence of a partial positive Wassermann reaction in association with tuberculids, in the apparent absence of syphilis, has been noted. In a study of the diagnostic errors occurring in connection with tuberculids, it was found that only 17 per cent. were diagnosed correctly. Tuberculosis was not suspected from the cutaneous findings in any case; one third of the tuberculids were ignored as being insignificant; two thirds of the mistaken diagnoses were given as syphilis. Syphilis was most often suggested by scars, arthritis and myalgic pains with anemia; one fifth of the patients had sustained needless surgical procedures. The occurrence of false therapeutic effects, due to the action of arsphenamin, in these cases still further increases the possibility of a mistaken diagnosis. The appearance of a tuberculid in an otherwise seemingly healthy individual should be the signal for a searching clinical and roentgenographic examination for a focus of tuberculosis.

### Modified Inguinal Hernia Technic

DR. GEORGE EARL, St. Paul: I have never found any functional or anatomic objections to placing the cord completely under the external oblique muscle. This modified technic covers the cord only by the superficial fascia and skin from its exit at the region of the internal ring, but it is covered by nothing else as it goes over the pubic bone, a far more exposed region. There is less liability to strangulation of the cord than when a new external ring is to be formed from the external oblique. Reports from thirty-eight patients operated on show no complaint of pain from the lessened covering, and there have been no recurrences.

### Conditions Contraindicating Operation with Stone in Kidney and Ureter

DR. W. F. BRAASCH, Rochester: Probably 75 per cent. of renal stones are passed spontaneously. It is usually inadvisable to operate for stone in either kidney or ureter until at least from three to six months have elapsed since the onset of symptoms. Exceptions to the rule are: excessive and continued pain; evidence of cortical or perinephritic infection, and continued urinary retention; also, if the stone is evidently too large to pass. Conditions permitting the formation of multiple stones are usually surgical. Conditions may be such that operation with bilateral renal lithiasis is definitely contraindicated. Clinical evidence of a low renal function will usually contraindicate operation, when

the symptoms are not very acute or persistent. The operation may be justifiable with acute symptoms, even though the renal function is far below the normal. Removal of stone in the presence of chronic nephritis does not affect the course of the primary nephritis, and unless surgical conditions are urgent, operation is inadvisable. Stones occurring with a bilateral pyelonephritis, however, should be removed even though the symptoms are not urgent. When the opposite kidney is practically functionless or absent, the question arises whether operation on a single kidney or ureter is justifiable. Such operations are frequently done with success. Operation for stone in a polycystic kidney would be justifiable in selected cases. Coincident lesions in other organs are frequently noted. When the several conditions are surgical, that lesion which causes the most acute symptom would naturally necessitate operation first. Hypertrophy of the prostate coincident with renal lithiasis usually takes precedence in regard to operation. Pregnancy, when less than six months, offers no contraindication to operation, and it may be necessary to operate when the symptoms become acute, even in the latter months. As a rule, in the later period of pregnancy, it would be advisable to defer any operation. Attempts to dislodge the stone should not be made in the presence of acute impaction with continued obstruction, acute renal infection, intolerance on the part of the patient to the cystoscope, anatomic deformity, and when the stone is more than 2 cm. in diameter.

### Modern Conceptions Regarding Radical Mastoid Operation

DR. HORACE NEWHART, Minneapolis: Every suppurating ear is a menace to the patient. The radical operation or one of its modifications is clinically indicated, with but very few exceptions, in all cases of chronic purulent middle ear discharge which are not permanently cured by persistent conservative treatment, including the removal of all possible causal factors in the nose and nasopharynx.

### Surgical Treatment of Gummatous Osteitis of Skull

DR. A. W. ADSON, Rochester: In addition to specific treatment, local surgical treatment, consisting of the removal of the sequestrum, or dead bone, is necessary. After the removal of the sequestrum, wet dressings saturated either in boric acid or salt solution should be applied, and if epidermization is slow, skin grafting may be resorted to later.

### Value of the Study of Blood Pressure in Typhoid

DR. J. W. ANDREWS, Mankato: Blood pressure findings are of great value in typhoid. In this disease, without complications, there is always a marked hypotension, the systolic pressure ranging from 100 down to 75 or 80 mm. of mercury. The more severe the case, the lower will go the systolic pressure, probably the effect of the typhoid toxins on the splanchnic circulation. Frequent blood pressure readings will serve in this disease as a guide to prognosis. The leukocyte count is always valuable. There is always leukopenia.

### Diagnosis of Cardiac Disease

DR. J. S. GILFILLAN, St. Paul: One should not place too much dependence on a systolic murmur in the diagnosis of a valvular lesion, but should demand other evidence. When a lesion is suspected, the confirming murmur should be sought for at different times and under various conditions.

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**Publication on Employment of Children.**—The Children's Bureau of the U. S. Department of Labor has just issued in the Children's Year Series a pamphlet called "The States and Child Labor." The publications in this series do not go to the general mailing list, but are mailed on request to any address on that list. This new pamphlet summarizes briefly regulations placed by the various states on the employment of children in certain types of occupation. It presents an easy reference to material otherwise only laboriously obtained, and is of such wide interest that it was decided to bring it to the attention of the general list. The pamphlet may be had by both physicians and the laity by addressing the Children's Bureau, Department of Labor, Washington, D. C.

# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Review of Tuberculosis, Baltimore

December, 1919, **3**, No. 10

*An Uncommon Case of Pleural Effusion. H. J. Howk and J. A. Herring, Mount McGregor, N. Y.—p. 585.
*Tuberculous Empyema. W. S. Duboff, Edgewater, Colo.—p. 590
*Further Attempts to Reduce Resistance of Guinea-Pig to Tuberculosis; Effects of Various Local Irritants. H. J. Corper, New Haven, Conn.—p. 605.
*Study of Clinical Activity. L. Brown, F. H. Heise, S. A. Petroff and H. L. Sampson, Trudeau, N. Y.—p. 612.
*Etiologic Studies in Tuberculosis. L. Brown, S. A. Petroff and G. Pesquiera, Trudeau, N. Y.—p. 621.
Types of Tuberculous Lesions Found at Necropsy in a Military Hospital. E. D. Downing, Denver.—p. 631.

**An Uncommon Case of Pleural Effusion.**—In this case the effusion seems to have been "locked up" by adhesions. The diagnosis was in doubt. The patient complained of pain, which was a most distressing symptoms up to the time when the fluid spread throughout the pleural cavity, and was completely and permanently relieved by that incident. Hence, the pain was probably due in large measure to the pressure of the accumulated fluid Evidently, bands of tissue, resulting from a prolonged pleuritis, held the fluid within strict bounds

**Tuberculous Empyema.**—Duboff's observations are based on a clinical study of twenty cases of tuberculous empyema.

**Further Attempts to Reduce Resistance to Tuberculosis.**—Using the macroscopic lesions of tuberculosis as an index of the acceleration of tuberculosis in the guinea-pig, Corper found that regional gland crushing, and the subcutaneous injection of virulent human tubercle bacilli in various sized doses, had no appreciable influence on the progress of the infection as compared with that obtained in control guinea-pigs. Lamp black injected subcutaneously, coincident with the tubercle bacilli, had a distinct retarding influence, while finely pulverized glass had a markedly accelerating influence, though not sufficient to be available for practical use in accelerating the guinea-pig diagnosis for the presence of tubercle bacilli in pathologic fluids.

**Clinical Activity.**—The object of this paper is to define clinical activity in such a manner that it may be of use in ordering the life and affairs of the tuberculous patient.

**Etiologic Studies in Tuberculosis.**—The danger of dust in rooms in a health resort, from telephone receivers, the danger of eating from utensils improperly cleansed, the danger from infected hands through handshaking or from knobs of doors, the danger of transmission by infected flies, at least in guinea-pigs, as a factor in causing tuberculosis has not yet been conclusively proved, and the experiments made by Brown et al. tend to belittle it. On the other hand, the danger of transmission of tubercle bacilli by kissing, or the transference of the tubercle bacilli to eating utensils, and thence, if not cleansed, to a second person, has been borne out. The authors express the hope that in publishing their experiments others may realize that the etiology of tuberculosis is not a closed book but one that contains many disconcerting and confused pages that need to be rewritten.

### Archives of Dermatology and Syphilology, Chicago

January, 1920, **1**, No. 1

*Two Unusual Caces of Ringworm, One of Them Due to a Fungus (Trichophyton Rosaceum) Producing Pink Cultures. M. B. Hartzell, Philadelphia.—p. 1.
*Cases of Chronic Papular Itching Eruption of Axillae and Pubes (Fordyce) S. M. Withers, St. Louis.—p. 8.
*Statistical Study of Extragenital Chancres. H. W. Porter, St. Louis. —p. 15.
Precancerous Dermatoses: Further Course of Two Cases Previously Reported. J. T. Bowen, Boston.—p. 23.
*Serious Reactions from Salvarsan and Diarsenol Brands of Arsphenamin. Unusual Blood Pictures; Report of Fatal Case. J. E. Moore and F. E. B. Foley, Baltimore.—p. 25.
Clinical Study of Lichen Planus. G. D. Culver, San Francisco.—p. 43.
Spore Identification in Scrapings. R. W. Bachman, Allentown, Pa. —p. 50.

*Cases of Urticaria Probably Due to Syphilis. Clinical Report. L. Hollander, Pittsburgh.—p. 55.
*Universal, Exfoliative Dermatitis from Sodium Cacodylate. W. A. Pusey, Chicago.—p. 57.

**Ringworm Due to Tricophyton.**—In Hartzell's first case, apart from the excoriations, the eruption, as a whole, bore considerable resemblance to a slowly spreading superficial nodular syphiloderm for which it might very readily have been mistaken on superficial examination. In addition to the affection of the skin, the nails of the index, middle and ring fingers of the right hand presented marked evidence of disease. They were rough and lusterless, with ragged and broken free borders. In scrapings taken from the skin and the nails an abundance of mycelium, presenting the morphologic characters of the trichophyton was readily demonstrated. In the second case a diagnosis of syphilis had been made by a former medical adviser, a genito-urinary specialist of considerable repute, and three or four injections of arsphenamin had been given, without any effect on the disease. In scrapings removed from the diseased areas Hartzell found numerous mycelia.

**Papular Itching Eruption.**—Withers reports four cases. In one case a complete microscopic study was made of a section removed from the axilla. The pathologic changes consisted of an acanthosis with hyperkeratosis, edema, perivascular infiltration and changes in the sweat glands, with keratocystomas of the sweat glands. The clinical picture consisted of a chronic circumscribed pruritus of the axillae and pubes principally, accompanied by a lichenification with keratocystomas of the deep sweat glands.

**Extragenital Chancres.**—Porter adds to the previous statistics on extragenital chancres the cases seen at the Barnard Free Skin and Cancer Hospital and the Washington University Dispensary. From August, 1905, to August, 1919, 225 patients presented themselves at the Barnard Hospital dispensary with a chancre as the chief complaint, or with the chancre still in evidence. Of these, fifty-five had extragenital primary sores, giving the rather high percentage of 24.5 per cent., or a percentage over half again as large as the highest percentage quoted by Montgomery. At the Washington University Dispensary there are recorded 106 cases of chancre, of which twelve were extragenital.

**Arsphenamin Reactions.**—Four cases are reported by Moore and Foley of severe reactions to the salvarsan or diarsenol brands of arsphenamin with an unusual blood picture, characterized by leukopenia, eosinophilia and increase in large lymphocytes and transitional groups, together with other evidence of destruction of the bone marrow. In a fatal case of salvarsan poisoning there was found at necropsy a markedly aplastic bone marrow showing degenerated cells and absence of the more mature forms of the myelocytic series. The fatal case showed for the first time, so far as can be determined, approximately the same kidney lesion as that produced in experimental animals by Pearce and Brown.

**Urticaria Probably Due to Syphilis.**—Hollander claims that no cases of puriginous lesions have as yet been attributed to syphilis. In his two cases the finding of syphilis was incidental as the patients consulted him on account of local, edematous, evanescent, papular, wheallike, extremely itchy lesions, appearing and disappearing, which disappeared entirely under antisyphilitic medication.

**Universal Exfoliative Dermatitis from Sodium Cacodylate.**—Pusey's patient had psoriasis. He went to a sanatorium for treatment. He was given ten or twelve daily injections of sodium cacodylate, each three-quarters grain. A few days after the last injection a redness of the skin appeared, which quickly became universal and developed. When Pusey saw the man three weeks later he had a severe universal, dry, exfoliative dermatitis, quite similar in appearance to the Hebra type. The condition was absolutely universal. The skin was thickened, inelastic and red, and scaling profusely. On the hands and feet the process was particularly intense. There was extreme hyperkeratosis of the palms and soles, and the condition was only less pronounced on the backs of the hands and feet. There was a good deal of burning of the general surface, and there were tenderness and discomfort on surfaces exposed to pressure. He had been confined to his bed for two weeks previously, during which time he had shown an afternoon temperature of from 101 to 102 F. Under treatment improvement was very slow.

## Arkansas Medical Society Journal, Little Rock

December, 1919, **16**, No. 7

Diagnosis and Treatment of Diseases of Gallbladder. W. R. Brooksher, Ft. Smith.—p. 135.
Is It Necessary to Resect More Than One Rib in Treatment of Suppurative Pleurisy? R. C. Dorr, Batesville.—p. 137.
Chronic Purulent Otitis Media. N. E. Frazer, Pangburn.—p. 139.

## Boston Medical and Surgical Journal

Jan. 8, 1920, **182**, No. 2

Diagnosis of Lesions of Nervous System Produced by Violent Explosions in Close Proximity Without External Lesions. T. A. Williams, Washington, D. C.—p. 27.
*History of Epidemic Encephalomyelitis. F. G. Crookshank, London.—p. 34.

**History of Epidemic Encephalomyelitis.**—Clinical occurrences of the nature that we now ascribe to encephalomyelitis, or encephalomyelomeningitis, Crookshank says have been recorded in modern times for at least 450 years. In great part, these occurrences have been noted as incidental to major prevalences, known historically as the sweating sicknesses, the epidemic catarrhs, or influenzas and the like. Special prevalences of these occurrences have also been described as manifestations of special diseases. These special prevalences have usually appeared shortly before or shortly after major "influenzal" epidemics, or else in geographical proximity to endemic-epidemic and endemic-influtnzal prevalences. Epidemic encephalomyelomeningitis represents an intensive and specialized reaction that has the same epidemiologic relation to pandemic influenza as have the prevalences and epidemics of "septic" pneumonia, of gastro-intestinal illness, and of other maladies described as occurring before and after the wide diffusions generally referred to as pandemic influenza.

## Bulletin of Johns Hopkins Hospital, Baltimore

December, 1919, **30**, No. 346

Henry Mills Hurd, the First Superintendent of Johns Hopkins Hospital. T. S. Cullen, Baltimore.—p. 341.

## Journal of Cancer Research, Baltimore

October, 1919, **4**, No. 4

*Attempts to Obtain a Transplantable Tumor in Higher Species of Animals. F. C. Mann, Rochester, Minn.—p. 331.
*Chemical Composition of Blood in Cancer. R. C. Theis and W. S. Stone, New York.—p. 349.
*Spirotera Carcinomata and Their Relation to True Malignant Tumors; Cancer Age. J. Fibiger, Copenhagen.—p. 367.

**Transplantation of Tumors.**—Experiments are reported by Mann in which attempts were made to transplant tumors of the dog and cat. Transplants of a mammary carcinoma of a dog were injected into 134 dogs, and transplants of a fibroma of a cat were injected into thirty-two cats. A transplantable tumor was not obtained in either series of experiments, although a few transplants grew for a short time. The transplants of the fibroma which were made in the donor grew. The results obtained in these experiments, in which tumor was employed, are strikingly similar to the results of autotransplantation, and homotransplantation of normal tissue. The problem of developing a transplantable tumor in the higher species of animals is, it would seem, closely allied to the problem of making homotransplants of normal tissue grow.

**Chemical Composition of Blood in Cancer.**—Theis and Stone determined sugar and the nonprotein nitrogen constituents, except creatinin and creatin, in blood obtained from 189 patients suffering from a malignant or allied disease such as leukemia or Hodgkin's disease. They found that nonprotein nitrogen and urea nitrogen are, in general, low in the blood of cancer patients. Amino-acid nitrogen is slightly above normal. Low results are not so obvious when other pathologic conditions coexist. Nonprotein nitrogen and urea nitrogen of blood are consistently low in clinically malignant cases. Uric acid, except in cases with

kidney complications and in two cases of melanoma, is not abnormal in cancer blood. Blood sugar is not generally increased in cancer. In 26 per cent of these cases (diabetics and nephritics excluded) the figure was somewhat above the normal and in 13 per cent. it was below normal.

**Spiroptera Carcinomas.**—Fibiger claims that by transmission of *Spiroptera neoplastica* (*Gongylonema neoplasticum*) to black and white rats and white mice, the development of neoplasms can be induced in the fundus of the stomach, and in rats in the tongue also. These neoplasms possess exactly the same histologic structure as malignant epitheliomas (keratinizing squamous cell carcinoma) in man and animals. They grow invasively into connective tissue and muscular tissue, and produce metastases in lymph nodes, perineural lymph spaces, the lung and the peritoneum. They continue their growth whether or not the spiropterae (as observed in the tongue) disappear entirely or only partly. They are transplantable, and when transplanted grow invasively into organs and tissues. Neither the metastases nor the transplanted tumors contain spiropterae, which have no share in their development and growth. That these tumors are true carcinomas cannot be doubted, and the fact that they may occur in younger animals is no reason why they should not be classed among the true malignant neoplasms.

## Journal of Pharmacology and Experimental Therapeutics, Baltimore

November, 1919, **14**, No. 3

*Benzylcarbinol: A Local Anesthetic. A. M. Hjort and J. T. Eagan, New Haven, Conn.—p. 211.
Comparative Skin Irritant Properties of Dichlorethylsulphid ("Mustard Gas") and other Agents. P. J. Hanzlik, Cleveland, and J. Tarr, U. S. Army.—p. 221.
*Anaphylactoid Phenomena from Thromboplastic Agents. P. J. Hanzlik, H. T. Karsner and J. Fetterman, Cleveland.—p. 229.
*Paradichlorbenzene and Paradibrombenzene. T. Sollmann, Cleveland.—p. 243.
*Experiments with Carvacrol. T. Sollmann, Cleveland.—p. 251.
*Experimental Study of Action of Chloramines. B. Fantus, and M. I. Smith.—p. 259.
*Histamine and Pituitary Extract. D. Cow, Cambridge.—p. 275.
*Histamine and Pituitary Extract. J. J. Abel and D. I. Macht, Baltimore.—p. 279.

**Benzylcarbinol.**—Benzylcarbinol, or rose oil, an aromatic side-chain alcohol, Hjort and Eagan claim possesses local anesthetic properties which from laboratory studies seem to be superior to those of benzyl alcohol. The toxicity of rose oil, as determined on white mice and a dog, is about the same as that recorded by Macht for benzyl alcohol. Benzylcarbinol is more stable than benzyl alcohol, another point in favor of the former. The solubility of the rose oil is sufficient for its therapeutic use.

**Anaphylactoid Phenomena from Thromboplastic Agents.**—Hanzlik and his associates found that the thromboplastic agents rich in protein (thromboplastin and hemostatic serum) are distinctly harmful when injected intravenously and subcutaneously into guinea-pigs, producing anaphylactoid symptoms and injury to the circulation; and death with large doses of thromboplastin intravenously. Coagulen, which contains only traces of native protein, produced more pronounced anaphylactoid symptoms and also injured the circulation. The injurious effect of the thromboplastins and hemostatic serum the authors claim may be accounted for in part by trikresol (the preservative) and to a greater extent by the protein fraction. This does not appear to be true of coagulen which contains neither trikresol nor native protein. Caution is therefore necessary when employing these agents intravenously and subcutaneously. Kephalin appears to be relatively harmless as compared with the other thromboplastic agents studied.

**Paradichlorbenzene and Paradibrombenzene.**—The toxicity of paradichlorbenzene for earthworms, Sollmann says, suggests that it may be of value as an anthelmintic. Paradibrombenzene has similar chemical properties, but a somewhat different and less disagreeable odor, and would, therefore, be more suitable for internal administration Both compounds have a high toxicity for earthworms. Experiments were tried on dogs but this method is inconclusive. The substances deserve clinical trial when their toxicity has been more fully determined. So far, no toxic effects have been observed from oral administration, even of very large doses. Their absorption is probably very slight. In one experiment with paradibrombenzene, the absorption, judged by the bromin excretion, was only 3 mg. after the administration of 1 gm.

**Experiments with Carvacrol.**—Carvacrol is an isomer of thymol which can be produced at a low cost from spruce turpentine. It is said to be actively germicidal, and has been used as a counterirritant anesthetic against toothache. Sollmann says that from its composition, it seems probable that it might be used as an anthelmintic, especially against hookworm, in the place of the much more expensive thymol. The gastric administration of carvacrol to dogs, in doses up to 0.5 c.c. per kilogram (corresponding to about 30 c.c. per man) produced no toxic symptoms within three weeks. However, much smaller doses (0.1 c.c. per kilogram equivalent to 5 c.c. per man) apparently produced marked congestion of the small intestines, liver and kidneys. It is probably more irritant and toxic than thymol. This enjoins caution in its use. Sollmann is of the opinion that the drug seems to deserve clinical trial as an anthelmintic substitute for thymol. The administration, however, must be worked out cautiously. The routine should be the same as for thymol, and the dosage should be started considerably smaller, until the zone of safety has been determined.

**Action of Chloramins.**—Fantus and Smith studied the action of the chloramines on animal life. They found that unicellular animals are promptly killed by very dilute solutions of soluble chloramines. The chloramines are powerful irritants, causing inflammatory edema of the subcutaneous tissue, and even necrosis of the overlying skin on hypodermic injection, inflammation of mucous membranes on local application, and vomiting on oral administration. Chloramine-T depresses the central nervous system in the order of: brain, medulla, spinal cord. On intravenous injection, chloramine-T produces pulmonary edema, probably due to the chlorin in the molecule, as sodium p-toluene sulphonamine given intravenously does not produce such effect. The mechanism of the chloramine-T pulmonary edema is probably the same as that produced by chlorin gas inhalation described and studied by Schafer. The hemolytic power of chloramine-T is due chiefly to its alkalinity, as is shown by the fact that it is also displayed by chlorine-free sodium p-toluene sulphonamine. On the other hand, p-toluene sulphonamine, containing no dissociable alkali, is not hemolytic. Hemoglobin is changed to alkaline hematin by the first two bodies. Methemoglobin formation due to the chlorin in chloramine-T occurs; but merely to a slight degree, and was demonstrable only in the test tube. Dichloramine-T likewise is slowly hemolytic and slowly changes hemoglobin to methemoglobin in vitro.

**Histamin and Pituitary Extract.**—Cow says that if the uterus of the mouse is treated with histamine, it responds by relaxation, a response similar to that which the guinea-pig's uterus makes to epinephrin, while pituitary extract applied under the same conditions produces an increase in tonus. These results do not appear to bear out the hypothesis advanced by Abel that the plain-muscle-stimulating principles of histamine and pituitary extract are identical.

**Histamin and Pituitary Extract.**—Abel and Macht maintain that the uterus of the mouse and of the guinea-pig react in the same way toward pituitary extracts and salts of histamine, in the sense that both tracts of plain muscle respond to small and presumably comparable doses by contractions and increase of tonus, the uterus of the guinea-pig being the more sensitive of the two to minute doses of the two agents. Both tracts of plain muscle are easily paralyzed by comparable doses of pituitary extracts and of histamine salts. An interesting parallelism, therefore, is shown to exist in the manner in which comparably weak solutions of the two agents stimulate both tracts of plain muscle to an equal degree, while equally strong solutions of the two agents paralyze both tracts. The rat's uterus presents certain anomalies in its reaction to both pituitary extracts and histamine as compared with the reaction of the uterus of

the mouse or guinea-pig to these agents. The hypothesis that histamine may be present in the posterior lobe of the pituitary gland in two forms (*a*) as a histamine compound (*b*) as free histamine in equilibrium with the compound is now being put to the test by the authors.

## Kansas Medical Society Journal, Topeka

December, 1919, **19**, No. 12

Classical Amputations of Foot and Ankle. T. G. Orr, Rosedale.—p. 289.
Nontubercular Joints in Children. C. B. Francisco, Rosedale.—p. 291.
The Chancre. C. C. Dennie, Rosedale.—p. 292.
Significance and Treatment of Hematemesis. P. T. Bohan, Rosedale, Kan.—p. 293.
Arsphenaminized Serum Introduced Directly Within the Cranium. A. L. Skoog, Kansas City, Mo.—p. 295.
Obstruction of Common Bile Duct. M. T. Sudler, Rosedale.—p. 297.
Etiology of Influenza. H. R. Wahl, Rosedale.—p. 298.

## Kentucky Medical Journal, Bowling Green

December, 1919, **17**, No. 12

Overseas Observations. I. Abell, Louisville.—p. 450.
Overseas Observations. D. Barrow, Lexington.—p. 455.
Treatment of Complicated Fractures. W. B. Owen, Louisville.—p. 459.
Early Diagnosis in Pulmonary Tuberculosis J. W. Scott, Lexington.—p. 462.

## Maine Medical Association Journal, Portland

December, 1919, **10**, No. 5

What Has the Medical Profession Learned by Its Experiences in the Recent War? C. Frothingham, Boston.—p. 127.
Reflex Symptoms of the Upper Abdomen Caused by Chronic Appendicitis. R. W. Wakefield, Bar Harbor.—p. 134.
Psychopathic Persons. F. C. Tyson, Augusta.—p. 140.

## Medical Record, New York

Nov. 29, 1919, **96**, No. 22

*Modern Medical Treatment of Chronic Ulcer of Stomach and Duodenum; Sippy Method. S. Weiss, New York.—p. 867.
Roentgen-Ray Diagnosis of Diseases of Thoracic Viscera. J. S. Diamond, New York.—p. 873.
Mentally Deficient Child with a Protracted Elevation of Temperature. G. D. Wolf, New York.—p. 880.
Treatment of Empyema in Army. C. Georg, Jr., and J. T. O'Neill, U. S. Army.—p. 883.
*Case of Retroversion with Unusual Symptoms. L. F. Herz, New York.—p. 885.

**Modern Medical Treatment of Chronic Ulcer of Stomach and Duodenum.**—Weiss says that medical treatment, properly used, with the new and more exact methods we now have for diagnosis and observation, will cure more chronic ulcers than surgery. Not necessarily because it is better treatment, but because it is always used first.

**Case of Retroversion with Unusual Symptoms.**—Herz's patient complained chiefly of extreme weakness in the legs when standing on her feet for more than five minutes at a time. She would be compelled to sit down or lean against some object from sheer weakness. She also complained of dysmenorrhea, with passage of clots. The pain preceded the onset of menstruation by two days, and was often so severe as to confine her to bed. Both the weakness and dysmenorrhea were of five years' duration. Headache and backache were absent. Vaginal examination showed a third degree retroversion. A curettage was first done, and then a Gilliam suspension. The dysmenorrhea disappeared very promptly. The menses were somewhat profuse for a few times. The feeling of weakness in the legs disappeared more gradually, but as the patient regained her strength after the operation, she soon overcame this former disability.

## Missouri Medical Association Journal, St. Louis

January, 1920, **17**, No. 1

Intestinal Obstruction. H. S. McKay, St. Louis.—p. 1.
Principles of the Carrel-Dakin Treatment of Infected Wounds. H. E. Happel, St. Louis.—p. 2.
Multiple Infection. W. W. Duke and R. L. Diveley, Kansas City.—p. 4.
Centenary of Stethoscope. L. Clendening, Kansas City.—p. 9.
Kidney Injuries. H. M. Young, St. Louis.—p. 12.
Pseudo-Appendicitis. J. J. Link, St. Louis.—p 14.
Danger of Unguarded Use of Heliotherapy in Laryngeal Tuberculosis. N. Barlow, St. Louis.—p. 18.
*Adenoid Diphtheria; Report of Case. E. L. Myers, St. Louis.—p. 20.
Intrascrotal Hydrocele of Cord with Cryptorchidism and Hernia. Report of Case. E. D. Twyman, Kansas City,—p. 21.
Gastric Syphilis. Report of Case. H. D. McGaughey and J. I. Tyree, Joplin, Mo.—p. 21.

**Adenoid Diphtheria.**—In Myers' case the vault of the nasopharynx was filled with a yellowish white, thin membrane apparently covering an adenoid growth of immense proportions. Twelve hours after antitoxin examination, the postnasal space was absolutely clear of any membrane. Myers directs attention to the fact that a case may clear up in its nasal aspect as far as the diphtheria is concerned and the adenoid growth might be the only seat of the infection. A low temperature (97.6 F.) with a rapid pulse (160) shows a toxemia. Taken in connection with the physical depression, plus the finding of a membrane in the nasopharynx it undoubtedly points to diphtheric infection of the adenoid tissue.

## Nebraska State Medical Journal, Norfolk

December, 1919, **4**, No. 12

Primary Sources of Infection. H. B. Lemere, Omaha.—p. 347.
Roentgen Ray Interpretation of Ethmoid Problem from Clinician's View Point. W. P. Wherry, Omaha.—p. 349.
Simple Office System for Measuring Astigmatism by Subjective Method. J. M. Banister, Omaha.—p. 352.
Types of Operation Suitable for Resection of Malignant Growths of Lower Sigmoid. J. E. Summers, Omaha.—p. 354.
Roentgen-Ray Diagnosis of Peptic Ulcer. O. E. Liston, Lincoln.—p. 358.
Comprehensive Examination of Stomach and Duodenum. J. W. Shuman, Sioux City, Ia.—p. 361.
Treatment of Acute Lung Troubles in Children. E. Mitchell, Grand River, Ia.—p. 364.
Condition of Birth Registration in Nebraska. W. F. Wild, Lincoln,—p. 366.
Climate in Treatment of Tuberculosis. M. Biesenthal, Chicago.—p. 372.

## New Orleans Medical and Surgical Journal

December, 1919, **72**, No. 6

Control of Venereal Disease. W. Edler, New Orleans.—p. 309.
Id. P. J. Gelpi, New Orleans.—p. 317.
Pertinent, Constructive Health Activities O. Dowling, New Orleans.—p. 325.
Diagnosis and Treatment of Gastric and Duodenal Ulcer. J. E. Knighton, Shreveport.—p. 332.
Ureteral and Prostatic Calculi. E. P. Merritt, Atlanta.—p. 335.
Surgery of Gallbladder. M. J. Gelpi, New Orleans.—p. 338
Skin Diseases Among Porto Rican Troops. H. Goodman, New York.—p. 343.
Mechanism of Spontaneous Elimination of Yellow Fever from Endemic Centers. H. R. Carter, U. S. P. H. Service.—p. 347.

January, 1920, **72**, No. 7

Gastro-Intestinal Disease at Camp Beauregard. A. L. Levin, New Orleans.—p. 382.
Infectious Diarrhea. F. J. Kinberger, New Orleans.—p. 395.
*Picric Acid; A Preoperative Disinfectant. O. C. Cassegrain, New Orleans.—p. 398.
Prevention and Treatment of Influenza and Influenzal Pneumonia. G. A. Hogan, Birmingham.—p. 402.
*Evolution of Successful Treatment for Complicated Cases of Influenza. J. F. Points, New Orleans.—p. 408.
*Induction of Anesthesia and Analgesia by Oral Administration of Various Drugs; Report of Cases. A. Ficklin, New Orleans.——p. 413.
Blood Pressure in Yellow Fever. J. B. Guthrie, New Orleans.—p. 420.

**Picric Acid as Disinfectant.**—The use of 5 per cent. picric acid solution is advocated by Cassegrain as a preoperative disinfectant, because it thoroughly disinfects and can be used with soap and water; it does not irritate the skin, and it is approximately 40 per cent. cheaper than iodin.

**Emetin in Complicated Cases of Influenza.**—Points endorses the value of emetin hydrochlorid as a cure for the complicated cases of influenza.

**Induction of Anesthesia and Analgesia.**—Ficklen endorses the production of anesthesia by the oral administration of 5 c.c. of chloroform and 20 c.c. each of ether and liquid petrolatum. The maximum effects last from one-half to three-fourths of an hour. After an hour the patient rouses easily. Vomiting occurs in a small proportion of cases. Alarming symptoms have never been observed. The effects of the drugs are intensified and prolonged by the administration of morphin.

## New York Medical Journal

Dec. 27, 1919, **110**, No. 26

Scientific Basis of Drink Control: Scientific Study of Inebriety. L. D'Abernon, London.—p. 1053.
Quartz Ultraviolet Therapy and Kinetic Energy. D. McCaskey, New York.—p. 1058.
Deformities of Hand. A. B. Gill, Philadelphia.—p. 1061.

*Principles of New Method of Administering Digitalis. H. E. B. Pardee, New York.—p. 1064.
Gastrointestinal Symptoms in Disturbances of Thyroid. L. W. Kohn, New York.—p. 1066.
Problem of Reducing Mortality from Pulmonary Tuberculosis. S. A. Savitz, Philadelphia.—p. 1068.
Gonococcemia and Metastatic Gonorrhea. H. I. Goldstein, Camden, N. J.—p. 1069. To be concluded.
Local Anesthesia; Plea for Its More General Use. A. H. Noehren, Buffalo.—p. 1074.

**Administration of Digitalis.**—The points which Pardee emphasizes are: The initial dose must be sufficient to bring the patient to the stage of slight poisoning, which cannot be accomplished within a reasonable time unless we use doses larger than have been used ordinarily heretofore. If a continued digitalis effect is desired, it will not be obtained satisfactorily unless the patient is kept at a high level of saturation with the drug; his body must be nearly full, not nearly empty, or any failure to obtain good results cannot be interpreted as a failure of digitalis therapy. The nausea and vomiting which result from digitalis poisoning can be avoided if special case is used in observing the patient during the periods when he is receiving a daily dose which is above the average rate of 20 minims of the tincture a day at which the body can dispose of the drug. The variable susceptibility of different patients is an important thing to recoginze. The amount of digitalis which will cause the appearance of these early signs of poisoning bears a definite relation to the weight of the patient. On the average a total dose of 2 minims of the tincture to each pound of body weight will produce these early toxic signs. If a patient, whose susceptibility is greater than the average, should receive such a dose, he would certainly be in danger of fibrillation of the ventricular muscle, and death. Those patients whose susceptibility for digitalis is less than the average must also be borne in mind. Therefore, if the average dose is insufficient to produce clinical improvement, and has not caused the appearance of toxic signs, continue to give the drug, watching carefully for the signs of early poisoning and not stopping digitalis until they appear. The average rate at which the body disposes of the drug, Pardee found to be 22 minims of the tincture a day, but here, again, there are considerable variations from one individual to another, as low a rate as 10 minims and as high as 40 minims daily being encountered. In spite of this the dose of 10 minims, twice a day, beginning three or four days after an initial digitalization, will not bring any patient to the toxic stage again very quickly, even though he may dispose of the drug at a much slower rate than the average.

Jan. 3, 1919, **111**, No. 1

*Tubed Pedicle in Plastic Surgery. H. D. Gillies, London.—p. 1.
Palliative Treatment of Urethral Stricture. M. Stern, New York.—p. 4.
Diverticulum of Esophagus. Report of Two Cases, One Double. H. Arrowsmith, Brooklyn, N. Y.—p. 8.
Aseptic Catheterization of Urinary Bladder. A. L. Soresi, New York.—p. 10.
*Clinical Experience with Feeding of Solids to Nurslings. H. Lowenburg, Philadelphia.—p. 12.
Wood Alcohol Poisoning. S. D. Hubbard, New York.—p. 16.
Nasal Obstruction Due to Abnormal Action of Nasal Mucosa. M. S. Ittelson, Brooklyn.—p. 19.
Respiratory Gymnastics in Tuberculosis. H. C. Lane, Denver.—p. 21.
Gonococcemia and Metastatic Gonorrhea. H. I. Goldstein, Camden, N. J.—p. 22.

**Tubed Pedicle in Plastic Surgery.**—The tubed pedicled skin flap was devised by Fillies. A strip of skin, usually between 2¼ and 3 inches in breadth, is raised from the neck to form the pedicle, its upper and lower extremities being left untouched. The two edges of the pedicle are accurately sutured together, skin edge to edge, by a continuous suture. The pedicle, now tubed, lies like a sausage between base and extremity. In the course of about three weeks, considerable arterial and venous anastomosis has occurred in the pedicle. The flap may now be raised from the chest and sutured into position on the face, the pedicle being left in its tubed condition. It is obvious that the pedicle cannot become infected. It will stand a considerable amount of twisting and even kinking, and the blood supply of the flap is enormously improved. When the flap has taken root on the face, the pedicle may be divided and returned to the neck, or, as is more commonly the case, the pedicle is divided at its neck end, opened out until it remains flat, and spread on some other portion of the face. Once having placed the flap onto the face, it is possible to use the pedicle in a variety of ways and positions. Flaps of skin can thus be brought, by stages, from a long distance to the face. In other parts of the body which are the site of severe burns and contractions, larger flaps of skin may be used to relieve the disability by this method.

**Feeding Solids to Nurslings.**—The availability of solid foods to the nursing infant, a procedure commonly regarded as dangerous and unscientific, is discussed by Lowenburg. Of 128 patients, seventy-six, or more than one half, received solid food between the ages of six and eight months and thirty (about 25 per cent.) at the age of six months. None of these infants, except those suffering from severe diarrhea, received these prepared solids exclusively, i. e., milk in some form, either human or properly adapted cow's milk or both, was simultaneously fed. It is demonstrable, however, that the addition of these substances to the diet in early infancy is not only harmless but decidedly advantageous, and that less dependence need be placed on milk as an exclusive article of sustenance during this period of existence. In no case did vomiting occur as the direct result of beginning the administration of prepared solids. Diarrhea can be controlled absolutely and cured by the withdrawal of milk and milk foods and the substitution of properly prepared solids. Constipation is invariably relieved when the greater portion of the solid material fed is represented by green vegetables. The weight usually falls when milk is withdrawn entirely. The varieties of foods employed embraced all available and edible solids from either the vegetable or animal kingdom. Semisolids, such as cereals and soft eggs, were also included. No infant under 1 year of age was fed meat or fish. All varieties of cereals, eggs, potatoes, lima and string beans, spinach, peas, squash, carrots, beets, beet tops, swiss chard, boiled lettuce, stewed celery, baked apples, prune pulp, practically formed the group from which selection was made. Meats and fish have been used with good effect between the ages of 1 year and 18 months.

## New York State Journal of Medicine

December, 1920, **19**, No. 12

*Diagnostic Methods in the Anemias. A. H. Sanford, Rochester, Minn.—p. 415.
*Treatment of Pernicious Anemia. L. Hamman, Baltimore.—p. 420.
Transfusion of Citrated Blood; Technic and Indications. R. Lewisohn, New York.—p. 431.

**Diagnostic Methods in Anemias.**—This paper was abstracted in THE JOURNAL, May 31, 1919, p. 1638.

**Treatment of Pernicious Anemia.**—Hamman's article may be summarized as follows: Pernicious anemia is inevitably fatal and treatment at best can but promote and prolong the remissions that characterize the natural course of the disease. There is not conclusive evidence to prove that one method of treatment brings on remissions more constantly than another, nor that it more surely prolongs remissions thus begun. We depend solely on clinical impressions derived from the observation of individual patients for our estimate of the value of treatment. Such observation teaches us that spontaneous remission may be in every way as satisfactory as remission following the use of any method of treatment. In pernicious anemia as well as in all other conditions for which we have only symptomatic or palliative treatment, success depends more on a judicious selection from among all available methods of treatment and their proper combination than on a onesided advocacy of a single method. Rest, feeding, arsenic, transfusion, the eradication of foci of infection and, perhaps, also splenectomy have a definite place in the treatment of pernicious anemia. But who shall say which feature of the plan of treatment is the potent influence?

## South Carolina Medical Ass'n Journal, Greenville

December, 1919, **15**, No. 12

Some Impressions of Eastern Clinics. E. A. Hines, Seneca.—p. 643.
The Ophthalmologist as Contrasted with the Eye, Ear, Nose and Throat Man. E. S. Waring, Columbia.—p. 645.
*Case of Congenital Heart Lesion with Unusual Origin and Size of Pulmonary Artery. H. H. Plowden, Charleston.—p. 649.

**Congenital Heart Lesion with Unusual Origin of Pulmonary Artery.**—In Plowden's case, leading from the right ventricle into the left ventricle, through the interventricular septum at its upper end, was an almost circular opening, one-half inch in diameter. No pulmonary artery could be found leading away from the heart. The only openings into or out of the right ventricle were the tricuspid orifice and the opening from the right to the left ventricles. The entire thoracic aorta was removed. Coming off from the middle of the under surface of the transverse arch of the aorta an abnormal branch was found. It measured one eighth inch in diameter. This vessel was also cut off very short and in view of the absence of the pulmonary artery elsewhere, Plowden believes that this must be the abnormally placed vessel.

## Southern Medical Journal, Birmingham, Ala.

December, 1919, **12**, No. 12

Wider Influence of Physician. L. S. Barker, Baltimore.—p. 719.
Medicine's Daily Debt to Roentgenology. J. S. McLester, Birmingham, Ala.—p. 735.
Application of Army Methods in Organization of Civilian Hospitals. S. McGuire, Richmond.—p. 739.
Tribute to Physicians of South Who Made the Supreme Sacrifice. F. K. Boland, Atlanta, Ga.—p. 743.

## Southwest Journal of Medicine and Surgery, El Reno, Okla.

December, 1919, **27**, No. 12

Closer Cooperation Between Various Special Branches. J. Beck, Chicago.—p. 257.
A New Operation for Glaucoma. E. J. Curran, Rosedale, Kan.—p. 273.

## Tennessee State Medical Association Journal, Nashville

December, 1919, **12**, No. 8

Pathologic Conditions of Nose and Nasopharynx as Predisposing Causes of Diseases of Middle Ear. L. M. Scott, Jellico, Tenn.—p. 275.
*Intestinal Obstruction. R. Caldwell, Nashville.—p. 281.
*Aneurysms: Report of Cases. E. B. Anderson, Chattanooga.—p. 286.
Inoperative Cancer and Other Conditions in Which Radium is Indicated. W. D. Haggard, Nashville.—p. 288.
Cathartic Medication. G. M. Niles, Atlanta, Ga.—p. 293.
Contracture of Bladder Following Chemical Cystitis. J. E. Hall, Nashville.—p. 295.

**Intestinal Obstruction.**—This paper was abstracted in The Journal, April 26, 1919, p. 1250.

**Multiple Aneurysms.**—Anderson reports a case of arteriovenous aneurysm of the subclavican artery, and one of multiple aneurysms causing severe hemorrhage. The patient had a four plus Wassermann reaction, and his entire arterial system was markedly sclerosed. His first aneurysm was a radial aneurysm. The next was an aneurysm of the hepatic artery, the third case on record. Then he had an aneurysm of the tibial artery.

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### FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

## British Medical Journal, London

Dec. 13, 1919, **2**, No. 3076

Medicine and the People. T. C. Allbutt.—p. 763.
*Diagnosis and Treatment of Chronic Gastric Ulcer. B. Moynihan.—p. 765.
*Hypochlorhydria and Air Swallowing. Report of Cases. W. Russell.—p. 769.
*Indolent Sores on Fingers. R. W. Mackenna.—p. 772.
Severe Dermatitis During Treatment with Novarsenobillon. L. G. Leonard.—p. 773.
Pregnancy Complicated by Volvulus of Sigmoid Flexure, Causing Intestinal Obstruction. M. Donaldson.—p. 774.
Three Cases of Reconstruction of Thumb. P. J. Verrall.—p. 775.

**Diagnosis and Treatment of Chronic Gastric Ulcer.**—According to Moynihan, the results of the treatment of gastric ulcer by any system or by dietary or medicinal regimen, are vitiated by the lack of accuracy in the diagnosis of gastric ulcer. The most rational of all methods, in his opinion, is that introduced by Sippy, which appears to meet more combatantly those conditions in the stomach which must be controlled before an ulcer can have the chance to heal. It is based on a recognition of the fact that the reduction of the acid in the stomach is the first necessity. This is attained by dilution of food, alkalinization of the gastric contents every hour, and by the administration of fats. Chronic gastric ulcers undoubtedly heal under treatment or after the exercise of continued care in diet, but, Moynihan says, in the majority of cases they do not remain healed. Nevertheless, a really serious attempt to treat all cases of chronic gastric ulcer by medical treatment should be made. It is best to have no half measures. It is at least arguable that the necessity for surgical relief in many patients is due to a too perfunctory trial of medical treatment in the earlier attacks. The ideal would be to keep the patient under treatment until a roentgen-ray examination showed that the ulcer was healed. When a chronic gastric ulcer has refused to heal, or has recurred, after medical treatment, surgical treatment is necessary. Moynihan discussed the various operative processes resorted to, as a rule, and expresses his preference for partial gastrectomy over all other operations because it does away with any chance of recurrence of the ulcer, it results in a complete and immediate freedom from all gastric troubles, and it banishes the danger—it may be large or small, but it certainly is real—of a cancerous change taking place in the base of the chronic ulcer.

**Hypochlorhydria and Air Swallowing.**—Russell restricts the term "air" swallowing to those cases in which the air is swallowed only when food is taken. The amount swallowed varies in individual instances, and consequently the degree of discomfort varies. It sometimes leads to visible distention; it may lead to pronounced neurosis or neurasthenia; it may act reflexly on heart and vessels, leading to functional angina pectoris. It may not only be associated with, but apparently may even be caused by abnormal gastric secretion, either hyperchlorhydria or hypochlorhydria. It is difficult to treat, and when once acquired the habit is difficult to break.

**Indolent Sores on the Fingers.**—An indolent sore on the finger of a nurse, a dental surgeon, or a doctor is all too often the precursor of a systemic spirochetal infection, and, as time is a factor of paramount importance, McKenna emphasizes the necessity of having serum from such a sore examined early, and, if need be, often, for the micro-organism of syphilis. He cites three cases in point.

## Lancet, London

Dec. 13, 1919, **2**, No. 5024

Ambulatory Treatment of Fractures of Extremities; Tuberculous and Arthritic Disease of Joints. C. A. Hoefftcke.—p. 1058.
Empyema. R. Sevestre.—p. 1059
Teaching of Pathology T. T O'Farrell.—p. 1062.
Need for Schools of Psychiatry. C. H. Bond.—p. 1065.
*Treatment of Muscles by Artificial Stimulation. G. Cooper.—p. 1067.
One Hundred and Twenty Cases of Acute Appendicitis. C. P. G. Wakeley.—p. 1071.
*Dextrocardia, Complete and Incomplete. B. Parsons-Smith.—p. 1076.

**Artificial Stimulation of Muscles.**—Excluding the muscular dystrophies and injury due to trauma and toxins, Cooper believes that all muscular atrophy is of the disuse type—that is, it is caused by suspension of the normal function of contraction and relaxation. The condition and tone of a muscle are largely dependent on their function—interchange between the cell and surrounding lymph taking place during contraction and relaxation. Prevention of atrophy and restoration of atrophied muscles by rhythmic contractions is, therefore, a reasonable line of treatment. Artificial stimulation of muscle conserves the nervous energy of the patient, and in most cases of injury is the only method that can be employed. Of methods of artificial stimulation, electrical is the most valuable. Treatment by electrical stimulation is governed by the consideration of two factors: (1) The degree of contraction produced, and (2) the degree of pain caused by the stimulation. Pain is largely a matter of the length of waves employed and the uniformity of the interruptions. Apparatus devised to give a uniform type of interruption yields the best results. Fatigue is a toxic phenomenon due to accumulation of lactic acid. There is no risk of fatigue if a proper blood supply is ensured and a short interval allowed

between the contractions. Practical experience has demonstrated the value of artificial stimulation in restoring the condition of wasted muscles and in preventing atrophy.

**Dextrocardia.**—Smith reports four cases. In two cases the transposition not only affected the heart but also the liver and the stomach; in the other two cases the heart was transposed, but the liver and stomach occupied their normal positions. Smith points out that associated with complete transposition of viscera, dextrocardia does not incapacitate and is usually diagnosed by accident. Dextrocardia without transposition of viscera is of serious moment. Symptoms of incompetence are bound to appear sooner or later; these latter include dyspnea, palpitation, insomnia, faintness, pain, etc., and result from a general visceral overcrowding, the liver impeding the movements of the heart and the upper lobes of the right lung. Patients with dextrocardia without transposition invariably lay stress on the pains they experience both during effort and when resting; these pains, depending on the visceral overcrowding, are both local and referred local, when they denote pressure on the intercostal nerve or brachial plexus, referred when the vagus or its intracardiac endings suffer inordinate stimulation. Dextrocardia without transposition is usually if not always, complicated by actual malformation of the heart and great vessels. In one of Smith's cases it was considered that the ventricular septum was perforate. Likewise other congenital derangements may be present, pulmonary stenosis or atresia, transposition of great vessels, incomplete septums, patent ductus arteriosus, etc.

## South African Medical Record, Cape Town

Nov. 22, 1919, 17, No. 22

Immunity Phenomena. T. J. Mackie.—p. 339.

## Archives des Maladies du Cœur, etc., Paris

April, 1919, **12**, No. 4

*Orthostatic Bradycardia. R. Lutembacher.—p. 145.
Disappearance of Systolic Murmur of Mitral Insufficiency During Extrasystoles. G. Galli.—p. 170.

**Orthostatic Bradycardia.**—Lutembacher analyzes in minute detail a case of orthostatic bradycardia with intermittent arrest of conduction by the bundle of His. This was not due to nervous inhibition but to a specific endarteritis of the arterioles of the septum.

June, 1919, **12**, No. 6

*The Blood Picture in Scurvy. A. Benoit.—p. 241.
Manometer Tracings in Extrasystoles. H. Busquet.—p. 246.
*The Sphygmo-Oscillographic Cuff. A. Mougeot.—p. 250.
*Circulation in Paralyzed Limbs. Carpentier.—p. 259.

**Blood Findings in Scurvy.**—Benoit describes the blood picture found in sixty-three adults affected simultaneously with scurvy.

**The Sphygmo-Oscillographic Cuff.**—Mougeot expatiates on the advantages of the sphygmo-oscillographic method of studying the heart action with the pneumatic cuff and hydraulic counter-pressure according to Pachon's system. The cuff can be applied near or remote from the heart, and the tracings are easy to read even with a very weak pulse, and they are always strictly comparable.

**Circulation in Paralyzed Limbs.**—Carpentier reviews some recent publications on the arterial circulation in limbs affected with infantile paralysis and in progressive myopathy in adults. There seems to be an atrophy of the arteries but no vasoconstriction or obliteration.

## Archives de Médecine des Enfants, Paris

December, 1919, **22**, No. 12

*Epidemic Meningitis. III. K. Lewkowicz (Cracow).—p. 617.
*Bronchiectasia in Children. A. D'Espine.—p. 653.
Varicella Eruption on Sunburn. P. Gautier.—p. 657.
Deficiency Diseases. J. Comby.—p. 659.

**Vaccine and Serotherapy of Epidemic Meningitis.**—Lewkowicz presents what seems to be conclusive clinical evidence that the lateral ventricles are the principal and essential seat of the infectious process, and that the meningococci spread from this hotbed through the entire subarachnoid space. The antiserum therefore, he declares, should be injected into the lateral ventricles from the very first and be reinjected daily, on alternate sides, or simultaneously on both sides every third day. The amount of the antiserum should be from 10 to 20 c.c. He urges the use of vaccine at the same time, from the very start. This tends to induce a general immunization which is a potent aid in the cure. He punctures the skull with a Götze grooved drill, 1.5 mm. wide, in a hand-drill. The needle is 1 mm. in diameter and 7 or 7.5 cm. long. A brass guide for the needle is introduced through the groove in the drill before the latter is drawn out. The brass guide inside the needle prevents obstruction with tissue. The tip of the needle is not sharp, as the only obstacle it has to force is the dura. The puncture is made anywhere along the top of the skull, 3, 4 or 5 cm. from the median line, pointing the tip of the needle toward the center of the skull. The depth of the puncture should be about 40 mm. for infants; 50 to 60 mm. for older children, and 60 to 75 mm for adults The fluid should not be injected until the needle is certainly in the ventricle. This is proved by the cerebrospinal fluid flowing from the needle and by the drop in tension as the antiserum spreads in the ventricles. It is important, therefore to have a manometer with three-way stopcock interposed between the needle and the syringe. The tension should not surpass 60 to 80 mm. mercury for older children and adults, and 40 or 50 for infants.

After the injection he leaves the needle in place for ten minutes to let the tension fall. Then he draws the needle half way out and leaves it for fifteen or thirty minutes, by which time the puncture canal has been plugged with a clot and there is no further oozing. In renewing the injections he trephines always at a point 1 or 1.5 cm. at least beyond the last points. His mortality was 36 per cent. in his last series of twenty-two cases, but analysis shows that a defective antiserum or a fulminating course from the start explained all the fatalities. In one instructive case the antiserum displayed a notably favorable action up to the twelfth day. Then the following injections, the sixteenth and seventeenth days, induced anaphylactic phenomena. Hence he warns not to give horse antiserum for longer than the thirteenth day, relying on the vaccine used from the start to carry on the work. In some mild cases the vaccine alone proved effectual, the blood serum showing an antibody content equal to that of the commercial antiserums. He explains how there is a constant current from the ventricles to the surface of the brain and of the spinal cord, the ventricles being the secreting area and the subarachnoid space the resorbing area. He has been applying this primary ventricle serotherapy since 1914, and has a total record of eighty-four cases.

**Bronchiectasia in Children.**—D'Espine has encountered three cases of bronchiectasia among the 4,916 children that have passed through the children's clinic at Lausanne in over nine years. One girl of 8 had a large area of dulness at the left base with signs of a cavity and bronchitis, and incurved finger-nails. She improved under treatment and a year later auscultation gave normal findings but the nails showed no change. The same deformity of the nails plus drumstick fingers was noted in one of the two other cases with necropsy.

## Archives Mens. d'Obstétrique et de Gynécologie, Paris

October, 1919, **8**, No. 10

Cancer of Uterine Cervix. M. Forgue.—p. 517.

## Bulletin de l'Académie de Médecine, Paris

Dec. 2, 1919, **82**, No. 38

*Pseudohermaphrodite. E. Schwartz.—p. 383.
*After Prepylorectomy. L. Pron.—p. 387.
*Crutch with Device to Lift Paralyzed Leg. G. Bidou.—p. 390.

**Complete Masculine Pseudohermaphrodite.**—Schwartz operated on a young widow for bilateral inguinal hernia. Her external genital organs were absolutely normal but the hernias proved to be testicles. He was careful to leave one of the testicles in place in this androgynoid.

**Gastric Ulcer.**—Pron reports the findings years after prepylorectomy for an old gastric ulcer. They show that the ulcer was the consequence and not the cause of the hypersecretion as the latter persisted unmodified after the ulcer region had been resected. The case teaches further the necessity for dietetic and medical measures being kept up for some time after operative treatment for old rebellious ulcers.

**Instrumental Orthopedics.**—Bidou gives an illustrated description of a device to be fastened to a crutch by which the hand moving a small lever controls an invisible wire passing over the shoulder and fastened to the knee or shoe, and thus lifts and lowers the paralyzed limb. With two of these crutches the paraplegic can soon learn to get about easily. Bidou emphasizes that the principles of this instrumental orthopedics can be applied to any motor impotency by studying and utilizing the motor capacity left in remote regions.

## Bulletin Médical, Paris

Dec. 13, 1919, **33**, No. 55

Congenital Pathologic Conditions in the Heart. Apert.—p. 761.
Three Cases of Mitral Stenosis in One Family from Inherited Syphilis. Nathan.—p. 766.

## Le Nourrisson, Paris

November, 1919, **7**, No. 6

*Buttermilk or Skimmed Milk in Infant Feeding. Marfan.—p. 321.
Twenty Years of a Well Baby Station. Bresset and Détré.—p. 340.
*Standard Weight Curve of Infants. A. Lesage.—p 351.
*The Wassermann Reaction in Children. F. Saint Girons.—p. 353.

**Buttermilk and Skimmed Milk in Infant Feeding.**—Marfan regards buttermilk as very useful in the transition from nothing but water to the ordinary food, for bottle babies under 5 months old with ordinary or choleriform diarrhea. It should never be given exclusively for more than two weeks, he says, nor in case of constipation, nor during the acute phase of the diarrhea, as water alone is called for during this stage; and buttermilk should never be given when there is fever. Several have reported cases of scurvy from prolonged buttermilk feeding. The buttermilk is made fresh, daily, in his service; the proportion of lactic acid is not over 5 gm. per liter. It cannot be sterilized alone, so it is made into a thin gruel with about 12 gm. of rice flour and 30 gm. saccharose to the liter, and the whole is cooked gently for twenty or twenty-five minutes, whipping it constantly with a cream whip. Cooked in this way it keeps well when distributed in bottles and heated to 115 or 120 C. But this sterilization is not required if the buttermilk is consumed within twenty-four hours, as in his service. When buttermilk is not available, condensed skimmed milk may be borne better than skimmed ordinary milk. Various substitutes more digestible than the butter in milk have been suggested, lipanin, cod liver oil, lard, olive oil, and coco oil, but these attempts are still tentative as yet.

**Standard Weight Curve for Infants.**—Lesage has computed the average from the standard weight curves published by Budin, Marfan and others. From this he has computed a standard normal range, adding 500 gm. to the average figure for the upper extreme, and subtracting 250 gm. for the lower. This range represents the normal, and the mothers are not frightened as is usual when the standard weight is given as a single figure. His own single figure average runs from 3,800 at the first month to 8,500 at the tenth.

**The Wassermann Reaction in Young Children.**—Saint Girons reiterates that a negative Wassermann reaction does not exclude syphilis in infants and children, and a positive reaction in children is not in itself alone a positive sign of syphilis. Even with positive reports from different laboratories, syphilis should be suspected, but in the absence of any other signs this cannot be accepted as positive proof.

## Paris Médical

Dec. 6, 1919, **9**, No. 49

*Progress in Pediatrics. P. Lereboullet and G. Schreiber.—p. 433.
*Flaring Up of Inherited Syphilis in Acute Infections. V. Hutinel and L. Nadal.—p. 442.
*Pharyngospasm in Children. E. Weill.—p. 449.
*Hemophilia. P. Nobécourt.—p. 452.
*Familial and Hereditary Exophthalmic Goiter. P. Harvier.—p. 457.

**Recent Progress in Pediatrics.**—Lereboullet and Schreiber mention as important progress since the beginning of the war the founding of the chair of hygiene for young infants and of the puericulture school, both at the Paris medical school. They review recent publications all of which have been summarized in these columns, and refer to some society reports, including Lesné's case of septicemic sporotrichosis involving the brain in a boy of 4. Also Nobécourt's three cases of pneumococcus pleurisy in infants successfully treated with pneumococcus antiserum. Some commend and others denounce lavage of the pleura after pleurotomy; it is done by the Dakin technic. Spirometer exercises are recommended for children to shorten convalescence from purulent pleurisy. This latter, Comby affirms, is like a "hot abscess." The success of a single injection of an autovaccine in a 7 months infant with a diffuse suppurating skin disease was reported by de Pfeffel, but another infant showed only improvement, and finally severe glandular involvement and exacerbation of the preexisting eczema proved fatal. Five injections of the vaccine had been given in this case.

**Rousing of Inherited Syphilis by Intercurrent Infection.**—Hutinel and Nadal discuss the puzzling clinical pictures presented when measles, pneumonia, nephritis or other infectious disease is distorted by an underlying, possibly hitherto latent and unsuspected inherited syphilis. Some instructive cases are reported, including one in which during measles at 4, the inherited syphilis flared up in the form of cerebral hemiplegia. In another case a mild nephritis started a train of cerebral symptoms with coma for twelve hours. Simple infectious sore throat in another case roused an encephalitis with meningeal reaction, and in one young infant, recovering from cerebrospinal meningitis, hydrocephalus developed. In all these and in others after typhoid, prompt specific treatment tended to eliminate the puzzling element of the inherited syphilis affecting the various organs and especially the brain and meninges. Chorea in particular was rendered mild and soon thrown off when the inherited taint was combated.

**Pharyngospasm.**—Weill calls attention to the spasm in the pharynx liable to be induced by some insignificant lesion. It does not cause spontaneous pain but the children refuse to eat, and this acute pharyngism is quite a common cause of supposed lack of appetite. This may keep up for weeks or months, with transient intermissions. The child seems to lose the notion of eating. He is not only seldom hungry, but he seems to have forgotten all about eating. He accepts food and chews a mouthful, but does not swallow it, chewing it over and over. The spasm conditions are like those with erosion of the anus. The children affected were from 19 months to 9 years old. Sometimes catheterization breaks up the spasm at one sitting. Other cases may require two or three sittings with a few days' interval. He uses Bouchard rubber sounds, dipped in boiling water and then in glycerin, for the progressive dilatation. The child is then able to swallow at will. The spasm can also be combated with a cold water compress to the throat for thirty or forty minutes, and then massaging the throat. If the child shrinks from swallowing, the finger pressed on the trachea causes suffocation which starts a swallowing movement. These measures are not so certain as the sound. With a neuropathic tendency, success is sometimes attained by having a stranger feed the child, and sometimes it will soon be swallowing normally. In three cases the children had become so much debilitated that murmurs suggested heart disease. The children held the mouthful of fluid in the mouth and then let it drool away. They were convalescing from typhoid, and minute ulcerations were visible on the posterior wall of the pharynx. He touched the throat with cocain and compelled these children to swallow fluid in abundance, and all the symptoms subsided.

**Hemophilia.**—Nobécourt describes some typical cases, and reiterates that the most effectual treatment to date is fresh horse serum and subcutaneous injections of 3 or 4 c.c. of a solution of peptone, 5 gm. in 100 gm. of water containing

0.5 gm. sodium chlorid. Three or four of these injections are made at two or three days intervals, repeating the series every three or four weeks. This was kept up for two years in one of the cases and the benefit was pronounced, although, as he reiterates, it seems to be impossible to cure hemophilia. The best we can do is to attenuate it.

**Familial and Hereditary Exophthalmic Goiter.**—In Harvier's case the goiter developed at 12, and the young man's mother, grandmother and an aunt on both the maternal and paternal sides had presented exophthalmic goiter. His sister had escaped. The tremor in his case had been noted from early childhood.

## Presse Médicale, Paris

Dec. 10, 1919, **27**, No. 75

*Acute Appendicitis. A. Gosset and J. Berger.—p. 753.
*Tattooing in Therapeutics. L. Dufourmentel.—p. 755.

**Emergency Appendicectomy.**—Gosset and Berger emphasize certain precautions desirable in operating in acute appendicitis, such as the warning that chloroform damages the liver which is already suffering from the pathologic storm. Spinal anesthesia is also dangerous, as the appendicectomy may require changes of position.

**Therapeutic Tattooing.**—Dufourmentel refers to tattooing in the effort to render scars, etc., less conspicuous by punctate injection of a coloring matter to bring the tissues to resemble the skin around. His experiments have shown that an indelible and nontoxic pigment for white is available in the oxid of antimony or white of antimony, $Sb_2O_5$, and for red in the iron oxids known as "earths," including ochre, and cadmium salts. The colors are mixed with alcohol and then diluted with distilled water, and a small area, not over 1 sq. cm., is covered with the pigment. This is pricked into the skin with a small instrument which has from three to six needles set close together. The other end of the instrument is finished with a spatula. The points should enter the skin for only half a millimeter, not deep enough to draw blood. When a drop of blood oozes, it washes out the color. India ink is used for black, and he has been gratified with the outcome of the black tattooing to fill in a gap in eyebrow or moustache. The results have also been truly excellent, he says, in cases of extensive white scars from burns in the face, tattooed with pink. The skin is washed off with ether and then with alcohol; iodin would interfere with the tattooing.

Dec. 13, 1919, **27**, No. 76

Inaugural Lecture of Clinical Medicine Course. L. Bard.—p. 761.
*Surgery of the Large Intestine. J. Okinczyc.—p. 763.
*Postoperative Fever in the Malarial. R. G. Brun.—p. 766.

**Surgery of the Large Intestine.**—In this fourth article, Okinczyc gives an illustrated description of some of the common indications for and the technic of operations on the cecum and colon.

**Febrile Reaction to Operations on the Malarial.**—Brun commends the practice of giving an intramuscular injection of 1 gm. of quinin for two or three days before an operation. This avoids confusion from the fever otherwise liable to develop after the operation.

## Progrès Médical, Paris

Dec. 6, 1919, **34**, No. 49

Arguments for Parasitic Origin for Psoriasis. L. Bory.—p. 487.
*Purpura in Typhoid. C. Roubier and P. Brette.—p. 488.
*Chilblains. H. Roziès.—p. 490.

**Purpura During Convalescence from Typhoid.**—Both of the two patients recovered, confirming the favorable prognosis which is the rule with tardy purpura in typhoid. The blood coagulated normally and the erythrocytes were not unusually fragile. The outlook is very grave when hemorrhagic syndromes develop early in typhoid.

**Chilblains.**—Roziès describes in turn the various methods of treatment in vogue for the relief of chilblains, saying that the aim with all is to promote the circulation in the capillaries and modify the lymphatic predisposition. Local measures which aim to relieve congestion and pain include electric light baths, hot air jets, exposure to the sun, film treatment as for a burn, massage and gymnastics of the legs. For the latter, the reclining subject lifts his leg as high as he can, holding it with his hands and flexing and stretching the foot and the toes, keeping this up for five minutes, and repeating every hour, working thus each leg and each arm each time. This modifies the circulation effectually. For direct medication, Comby advises a tepid bath, then rubbing with spiritus camphorae and, on retiring, painting with iodized glycerin (equal parts). Among the other procedures described is Jadassohn's treatment with baths: The part is soaked for ten or fifteen minutes in water as hot as can be borne, adding boiling water until the skin is very red, and doing this three times a day, wiping the part carefully dry afterward. Roziès gives a long list of other procedures that the practitioner has at his disposal for treatment of chilblains.

Dec. 13, 1919, **34**, No. 50

The Blood Pressure and the Pachon Oscillometer. Paillard.—p. 497.
General Anesthesia by the Practitioner. Hartmann.—p. 499.
*Psychoses Cured by Intercurrent Infection. H. Damaye.—p. 501.

**Psychosis Cured by Intercurrent Influenza.**—In Damaye's two cases the psychosis was of the dementia praecox type, and had lasted eighteen months in one case and seven in the other. The mental condition returned completely to normal after an attack of febrile influenza in the first case and of infectious sore throat in the other. The patients were men of 20 and 23.

## Policlinico, Rome

Aug. 3, 1919, **26**, No. 31

*Injection of Arsphenamin on the Fascia Lata. M. Trossarello.—p. 937.
*Filtrable Viruses. R. Ciauri.—p. 940.
Arteriovenous Aneurysm in Thigh; Two Cases. P. Perazzi.—p. 945.

**Injection of Arsphenamin on the Fascia Lata.**—Trossarello was much pleased with the advantages of injecting the arsphenamin on the fascia lata instead of into a muscle. In 60 per cent. of the thirty patients treated with this technic the injections were painless or nearly so. In 25 per cent. there was a moderate reaction, and in 15 per cent. a sharp, painful reaction. Those in this latter group were all in the tertiary stage of syphilis. There never was any suppuration or necrosis at the spot, and he advises this epifascial technic as preferable to the muscular when intravenous injections are not practicable.

**Filtrable Viruses.**—Ciauri marshals the data already accumulated in respect to filtrable viruses, and comments on the conflicting state of our knowledge to date. Is it possible that certain bacteria pass through a filtrable stage in some phase of their development, he asks, or are we to assume that some filtrable virus happens along and suddenly mobilizes the latent pathogenic properties of ordinarily harmless bacteria?

Aug. 10, 1919, **26**, No. 32

*Acceleration of Pulse with Physical Exertion. C. Minerbi.—p. 961.
Spontaneous Transformed into Artificial Pneumothorax; with Recovery. E. Curti.—p. 967.
Contract Sickness Insurance Practice. G. Loriga.—p. 970.

October, 1919, **26**, Medical Section No. 10

Multiple Sclerosis of Nervous System. P. Albertoni.—p. 361.
Case of Tabes with Gummas. A. Giannelli.—p. 381.
Result of Operations on Trunk Nerves. Boschi and Perrone.—p. 385.
Research on Sensibility to Vibrations. C. Frank.—p. 387.

**Adaptation of the Heart to Physical Strain.**—Minerbi reviews a large number of recent Italian contributions to the physiology of the heart, and the way in which it defends itself against overstrain within physiologic limits. Among others Giuffrè has demonstrated that not only mechanical and hydraulic factors cooperate in accelerating the heart beat during physical exertion, but psychic, volitional, factors also cooperate, and likewise chemical factors, from waste produced by the physical exertion, and nervous factors, from stimulation of the accelerators and inhibition of the vagus. Minerbi has called attention to the isolated increased tonicity reaction in the different cavities of the heart as a sign of their functional capacity. Much of the recent Italian work on the heart has been true pioneer research, he explains.

## Rivista Critica di Clinica Medica, Florence

Sept. 20, 1919, **20,** No. 38

*Intestinal Parasites in Italian Troops. G. Garin.—p. 445. Conc'n.

**Intestinal Parasites in Italian Troops.**—Garin's extensive research failed to reveal any special tendency to intestinal parasites in the military, even after long service in the trenches. The proportion was about the same as in corresponding civilian groups. But helminthiasis seemed to afford a certain predisposition to typhoid and paratyphoid.

## Annaes Paulistas de Med. e Cirurgia, S. Paulo, Brazil

September, 1919, **10,** No. 9

*Coccidioides Immitis. A. M. Pedroso.—p. 193.
Relations Between Infant Feeding, Infection and Constitution. O. Chiaffarelli.—p. 204. Cont'n.

**Coccidioides Immitis.**—Pedroso gives nearly six pages of literature on coccidioidal granuloma, and describes a case diagnosed as blastomycosis from which he cultivated *Coccidioides immitis.* It is easily differentiated, he says, by the fact that its reproduction is by sporulation and never by budding, while blastomycetes always grow by budding and never by spore formation.

October, 1919, **10,** No. 10

*Case of Blastomycetic Dermatitis with Epileptic Seizures. J. Mendes Pereira and F. Jacobs.—p. 217.

**Blastomycetic Dermatitis with Epileptic Seizures.**—Mendes and Jacobs state that the number of cases of blastomycosis in Brazil is growing constantly larger as physicians are learning to recognize it. In a case reported, the previously healthy young married woman developed a skin lesion in the right parotid region treated at first for eczema. The glands around suppurated, and by the sixth month there was a severe epileptic seizure and again the seventh month, and after this mild seizures of the Bravais-Jackson type recurred almost daily. The aura was always in the right ankle and there was paresis of the leg. The diagnosis had been in turn eczema, gout, syphilis, tuberculosis, and leishmaniasis of the skin until the microscope revealed the blastomycetes. Iodid treatment was then pushed but no benefit was realized, and the epileptic seizures continued while the skin lesions spread, with death in less than a year from the first symptoms.

## Brazil-Medico, Rio de Janeiro

Oct. 11, 1919, **33,** No. 41

Bovine Sarcosporidiosis in Rio District. H. G. Hasselmann.—p. 321.
Epidemic Poliomyelitis in Uruguay. V. Escardo y Anaya.—p. 322. To be continued.

Oct. 18, 1919, **33,** No. 42

Protozoan Parasites of Man in Paraná. C. Pinto.—p. 329.
*Treatment of Renal Dropsy. C. de Rezende.—p. 329.

**Treatment of Nephritic Edema.**—De Rezende comments on the rebellious nature of subacute and chronic parenchymatous nephritis; it usually resists all treatment unless it is of syphilitic origin. In a recent case a girl of 10 died in nine months from the first symptoms. In another case a youth of 16 had traveled far on the same road, and was bedridden from the enormous dropsy when he contracted influenza. After a week of a terrible struggle with the influenza, which had invaded the lungs, the diuresis increased and the renal dropsy melted away, the young man leaving the hospital without a trace of edema a month after the onset of the influenza. De Rezende quotes a similar case recently reported by Allbutt, with recovery after influenza. But Allbutt ascribes the recovery to his dietetic treatment according to Epstein's method, aiming to supply the system with an abundance of albumin to make up for the huge losses of albumin in the renal dropsy. De Rezende is convinced that the cure in these two cases was due to the intercurrent febrile disease which modified the osmotic tension in some way and broke up the abnormally inverted current of fluid from the blood into the tissues. In future cases of the kind de Rezende intends to apply treatment with injections of normal serum, by the vein or subcutaneously. This will supply the albumin to conform to Epstein's theory, while he expects that it will induce a salutary febrile reaction which will modify the physical or physicochemical conditions.

## Juventud Médica, Guatemala

August, 1919, **18,** No. 195

Fracture of Vertex of Skull with Abscess; Recovery. R. Tejada Aguirre.—p. 117.
*Yellow Fever. A. Madrid.—p. 120. Cont'n.
Imperforate Anus: Two Cases. B. Aldana S.—p. 123.
Palliative Operation for Cancer of Bladder C. Estévez P.—p. 124.
Hemorrhagic Purpura. G. Valdés.—p. 126.

**Yellow Fever in Guatemala.**—In the course of this report of his experiences, Madrid states that three children, from 5 to 7, presented at first the same clinical picture as the adults, but ascarides issued from the mouth and anus, without feces. The children also presented convulsions, contractures and meningism, and one had vaginal hemorrhage. Most of the women had profuse uterine hemorrhages. One morning he was called to two adults presenting the identical clinical picture, sudden onset, high fever, pain in the stomach, and rapid pulse, but no albumin was to be found in the urine. The next day one still had fever, with intense albuminuria, and the diagnosis of uremic-hemorrhagic yellow fever was confirmed by the further course. The other patient's urine and temperature were normal, and quinin then conquered her simple malaria. Madrid extols the advantages from autoserotherapy in the twelve patients given a single injection of the autoserum. But he warns that after the fourth day there are no antibodies, and hence the procedure is futile after that date.

## Revista Médica del Uruguay, Montevideo

October, 1919, **22,** No. 10

Scarlatiniform Eruption from Insect Bite. A. Armand Ugón.—p. 719.
Antecedents of Vulvar Cancer. C. Stajano.—p. 722.
When Therapeutic Abortion Is Decided on, the Physician Should Not Depute the Task to a Midwife. A. Turenne.—p. 747.

## Semana Médica, Buenos Aires

Sept. 18, 1919, **26,** No. 38

*Chronic Pseudo-Appendicitis. J. R. Goyena.—p. 321.
Teaching of Clinical Gynecology. C. R. Cirio.—p. 323.
Prophylaxis of Tuberculosis. N. Lozano and C. Mainini.—p. 326; J. de Dios Alcatena.—p. 341.
*Sanatorium Unit. Añon Suarez.—p. 330.
*Myiasis. E. D. Cortelezzi.—p. 334.
Influenza. P. A. Etcheverry.—p. 339; A. Thomson.—p. 342.

**Chronic Pseudo-Appendicitis.**—Goyena tells of a case in which an emergency appendicectomy was done for an "abdominal mirage" from pneumonia. He thinks that in many of the cases recorded as "chronic appendicitis cured by appendicectomy," the cure was the result of the rest and hygiene during convalescence. A sign lauded as pathognomonic of appendicitis, the intense pain induced at the cecum when air is pumped into the rectum, was strongly positive in a recent case years after the appendix had been removed. In a large proportion of cases the disturbances return sooner or later after the appendicectomy, as they are the result of stasis in the cecum, and the appendix is not responsible for them. Simple medical measures may correct conditions revealed by radioscopy and other modern exploratory methods.

**Sanatorium for the Tuberculous.**—Añon Suarez gives an illustrated description of what he calls the ultra-economical sanatorium unit, and the arrangement of several such units to form a sanatorium of 768 beds with 80 beds to the hectare. A row of four units form an obtuse angle open to the sunshine, with back to the cold winds, and the other sets of four units parallel these, with ample space between.

**Myiasis.**—Cortelezzi reviews the literature and reports two cases in which the maggots of *Chrysomyia macellaria* were found in the ear or nasopharynx. In one case over 100 of the larvae were expelled from the ulcerated nose and pharynx after instillation into each side of the nose of 2 c.c. of benzin, and the pharynx had been touched with it.

Sept. 25, 1919, **26,** No. 39

*Univitelline Twins. F. A. Deluca and V. Widakowich.—p. 355.
*Sclerogummatous Dermatitis. A. Gutiérrez and S. Rosner.—p. 360.
General Plan for Prophylaxis of Tuberculosis. E. R. Coni.—p. 363.
*Disqualifications for Matrimony. A. Stucchi.—p. 368.
Importance of Early Diagnosis of Tuberculosis. J. F. Mieres.—p. 376.

**Origin of Univitelline Twins.**—Deluca and Widakowich discuss the evidence on the cause of twin pregnancies from

one ovum, and say that there is much to sustain the assumption that this results from fecundation of the ovum by a spermatozoon with two heads. This assumption is sustained further, they say, by the fact that twin gestation of the univitelline type occurs mostly in syphilized families. The spermatozoa in syphilitics are more often of the double-headed and other anomalous types.

**Syphilitic Sclerogummatous Dermatitis.**—The excrescences on the foot had been developing for five years, and the Wassermann test was negative; after excision of the extensive hardened areas and specific treatment, clinically normal conditions were restored. The Wassermann reaction became positive later.

**Ultraprophylaxis of Disease.**—Stucchi discourses on the tragedy and absurdity of the present laws which lay so much stress on matters of property and land ownership in relation to marriage, and yet pay no attention to the really vital matters, whether the contracting parties are bringing loathsome disease into the family they are founding. He discusses the arguments for and against the forbidding of marriage to the chronically diseased, and urges this "ultraprophylaxis" as necessary from the legal and social standpoints as well as from the biologic and medical.

Oct. 2, 1919, **26**, No. 40

*Tuberculin Treatment of Tuberculosis. II. F. Gómez Alvarez.—p. 393.
*Shock in Obstetric Practice. D. Iraeta.—p. 389.
Prophylaxis of Tuberculosis in Children. A. Casaubon.—p. 393.
*Antibodies in Hydatid Cysts. J. Bacigalupo.—p. 399.
Percutaneous Tuberculin Treatment of Tuberculosis. S. de Madrid.—p. 400.
Eugenics in the United States. V. Delfino.—p. 403.

**Tuberculin in Minute Doses.**—Gómez here continues his analysis of his experiences with almost infinitesimally small doses of tuberculin, as described repeatedly in THE JOURNAL in the last few months. He says that every one responds with a stimulation of the vital processes to injection of the bacillin, as he calls this many-million-times diluted tuberculin. This action is manifest within six or twelve hours. The reaction to tuberculin is always focal when there is a focus, the effect proportional to the dilution. This reaction may be in the form of an aggravation, from the production of lysins, or there may be marked improvement from the production of what he calls haptins. The latter denotes the beginning of the therapeutic action which terminates in immunity. By reducing the dilutions to the extreme limit, the lysin-producing phase is skipped, and we begin to realize at once the favorable, haptin-producing response. The ordinary tuberculin tests reveal merely that the subject is tuberculous. Tests with the tuberculin in this extreme dilution tell not only that the subject is tuberculous, but they locate the tuberculous lesion by the changes in the symptoms from it under the influence of the bacillin.

**Obstetric Shock.**—Iraeta remarks that the low blood pressure, subnormal temperature, exhaustion tachycardia, and syncopal condition sometimes noted after delivery should be regarded as typical shock, and be treated accordingly. Ether or chloroform may bring on acute insufficiency of the suprarenals in parturients with latent predisposition thereto, and hence he warns against the use of either, saying that nitrous oxid is free from this danger and should be preferred for obstetric cases. He quotes Bayliss' recommendations of gum injections preliminary to intervention, for persons predisposed to shock. The action of epinephrin, saline infusion, etc., is transient or unfavorable, but the Bayliss 6 per cent. acacia solution in physiologic saline increases the viscosity and osmotic tension while, he reiterates, there is no danger of anaphylaxis, hemoptysis or agglutination with it. The initial perfusion with 500 c.c. can be repeated in fifteen minutes and, if the blood pressure drops again, there are no contraindications to repeating the injections. Iraeta's practice in case of established shock is to give the intravenous gum injection and, if this is not effectual, he follows it with transfusion of blood. Warming up the patient is important; he has seen dogs in shock recover when warmed while the unwarmed succumbed. He warns against danger with intravenous injection of camphorated oil. His reliance otherwise is on inhalation of oxygen, reclining horizontal, and absolute repose.

**Antibodies in Hydatid Cysts.**—Agglutinins were found in the fluid of two hydatid cysts in the liver in a child who had died from typhoid.

## Berliner klinische Wochenschrift, Berlin

Oct. 6, 1919, **56**, No. 40

*Duration of Ventricular Systole. Brugsch and Blumenfeldt.—p. 937.
*Gregersen's Modification of the Benzidin Test. I. Boas.—p. 939.
*Disturbances of Liver Metabolism. S. Isaac.—p. 940.
Tuberculous Peritonitis. W. Bloch.—p. 943.
Case of Acute Suppurative Thyreiditis. H. Höpfner.—p. 944.
*Two Superposed Infectious Diseases. S. G. Zondek.—p. 945.
Silver Salvarsan Sodium. Bruhns and Löwenberg.—p. 948. Conc'n.

**Proportionate Duration of Ventricular Systole.**—That determination of the proportionate duration of the ventricular systole has, functionally, greater significance than the pulse rate, is the conviction reached by Brugsch and Blumenfeldt, after extensive research on the subject at the Berlin Charité. For the determination of the cardiac systole, phonocardiograms were made, recording the heart sounds. For control purposes, electrocardiograms were made simultaneously. The results of their investigations on healthy subjects showed that with increasing age there was a corresponding increase in the proportionate duration of ventricular systole (expressed as a percentage of the complete cardiac revolution). Sex, however, seemed to play no part. Although, in a general way, the proportionate duration of the systole increased with an increase of the pulse frequency, it was evident that no functional ratio existed. Especially significant was the finding that the proportionate duration of systole in healthy adults has a constant value after rest, and that the variation in different individuals is slight. The value as determined for both sexes in the age group 25-70 is from 33.5 to 37.5 per cent. (of the cardiac cycle); whereas pulse frequency varies from 50 to 78. The authors found further that in certain cardiac diseases; for example in aortic and in mitral insufficiency, the proportionate duration of systole increased with the severity of the disease, whereas in certain other heart diseases there was a decrease. The investigations must be carried further, but the authors feel that the marked diagnostic value of the determination of the proportionate duration of ventricular systole is already beyond question, and that it surpasses that of the pulse rate.

**Modification of Benzidin Test for Occult Blood.**—Gregersen has recently found that a frequent cause of failure in the application of the benzidin test is that too strong solutions of the reagent are used. Following Grundmann's idea, he reached the conclusion that many of the positive reactions in normal persons on a meatless diet may be explained by the fact that minimal traces of blood were mixed with the feces, which, because of the excessive sensitiveness of the reagent, produced positive reactions. Boas accepts the idea that the use of highy concentrated benzidin solution does lead to false diagnosis, and on that account approves, after careful trials, Gregersen's modification of the test. Gregersen uses a 0.5 per cent. benzidin solution, and instead of the easily decomposable hydrogen dioxid he employs barium dioxid, which is much more stable. Gregersen's method is described in detail, and Boas offers what he considers a further slight improvement. Boas admits, however, that in using the weaker solution very slight hemorrhages, though worthy of note, might go undiscovered.

**Disturbances of Liver Metabolism.**—The reason why the chemical processes in the liver have not awakened more clinical interest in the past is that disturbances in liver metabolism are difficult to determine. It has been difficult to differentiate between pathologic and physiologic phenomena, perhaps, because the pathologic phenomena are usually only quantitative shiftings. But Isaac thinks that these quantitative changes, while causing at first only partial changes of function, usually affect finally the action of the liver as a whole. The equilibrium of certain associated processes on which the normal metabolism of the liver depends may be only slightly disturbed, but in the aggregate a complex derangement of the liver functioning may thus be entailed. He finds that the most common cause of disturbance lies in

primary changes in carbohydrate metabolism, and illustrates this point by considering in detail various alimentary disturbances of glycogen metabolism. He shows how the liver may react in different ways to nervous and toxic stimuli, but that it is always a question of an exaggeration of some normal specific function.

**Superposed Infectious Diseases.**—Since the combined appearance of typhoid and dysentery is comparatively rare, Zondek reports several cases observed during the war. He has noted the tendency to consider such cases as atypical infections, whereas a more careful diagnosis revealed the presence of a mixed infection. Similar diagnostic errors might explain other so-called atypical diseases. Sometimes dysentery followed typhoid, sometimes the converse was true, if the statements of patients before entering the hospital may be accepted. The second infection began often during convalescence from the first. At other times the two infections ran parallel. The course of the dysentery offered nothing peculiar. Only one case was fatal. He mentions as significant that in one patient one week after defervescence of paratyphoid B, *B. dysenteriae* was found in the stool, though clinical symptoms did not appear until four days later. This finding evidences the fact that dysentery patients eliminate dysentery bacilli during the incubation period. Four paratyphoid patients eliminated *B. dysenteriae* during convalescence without showing clinical symptoms of dysentery at any time. It was often difficult to demarcate the typhoid from the dysentery, for typhoid, and especially paratyphoid, may often present a picture resembling dysentery. There was no evidence that the course of the typhoid was influenced by the dysentery. On the other hand, the dysentery was brought to an unexpected termination by the typhoid. However, paratyphoid B could not be shown to have any effect on the dysentery. Whether paratyphoid B was influenced by the dysentery could not be definitely shown, but the course of the paratyphoid B was short and uneventful. Paratyphoid A could not be shown to have been affected by a previous dysentery, but the course of the disease was lighter than usual.

During synchronous epidemics of typhus and recurrent fever about 1,000 typhus patients and 150 recurrent fever patients were treated. In twenty cases typhus followed recurrent fever. The severe and stormy course of the typhus was doubtless due to the preceding attack of recurrent fever, which had left the patient in a weakened physical condition and had doubtless damaged the central nervous system. In six cases the typhus set in after the first attack of recurrent fever. During the course of the typhus the spirochete of relapsing fever was not found in the blood. There was no second attack of the recurrent fever in these six cases, but the other patients with recurrent fever followed by typhus had two or more attacks of the former.

## Correspondenz-Blatt für Schweizer Aerzte, Basel

Dec. 4, 1919, **49**, No. 49

*Smallpox and Vaccination. G. Sobernheim.—p. 1849.
Neuroses and Psychoses Among the War Interned. A. Repond.—p. 1858.
*Porphyrinuria with Paralysis. W. Löffler.—p. 1871.
Auscultation with Two Phonendoscopes. G. A. Römer.—p. 1879.

**Smallpox.**—Sobernheim expatiates on the importance of an early diagnosis of smallpox. The extremely fine granula found by Paschen in all the smallpox cases he examined requires great skill in the technic for its discovery, but it most certainly seems to stand in some relation to smallpox, as also Guarnieri's cell inclusions which can be refound in the rabbit cornea inoculated with pustule contents. This test also requires a complicated technic, but Paul's method is simple and rapidly instructive. With this, the scarified rabbit cornea is inoculated with contents of the suspected pustule or with secretions from nose or throat, and in thirty-six to forty-eight hours there is a macroscopic reaction, the cornea around remaining normal while minute elevations can be seen at the infected points. If the eyeball is placed for a short time in mercuric chlorid-alcohol, the cornea turns gray while the minute swellings show chalky white. This kind of reaction is seen only with smallpox or vaccine virus, but negative findings are not conclusive. With this and other tests, it has recently been demonstrated, he adds, that the virus is found in the nose and throat early in the disease, and that the disease can be transmitted by droplets, but no evidence of healthy carriers has been discovered as yet.

**Porphyrinuria with Ascending Paralysis.**—Löffler adds another to the fourteen cases of acute porphyrinuria on record; his case is the fifth with symptoms of acute ascending, lax, purely motor paralysis. No cause for the porphyrinuria could be discovered in the previously healthy farmer's daughter. It is curious that women formed 92 per cent. of all the cases of the acute toxic form, and 78.5 per cent. of the acute idiopathic form. Necropsy failed to reveal in his case any pathologic changes in brain, cord or peripheral nerves. The urine averaged 0.065 per cent. porphyrin; in one day's 400 c.c. urine there was 0.26 gm. In chronic porphyrinuria the range is from 0.17 to 0.57 gm. The porphyrin answered to all the tests, confirming that a single form of porphyrin is found in both the chronic and acute cases. The stools also showed the spectrum for porphyrin; this is the first time, he says, that it has been found in the stools in acute porphyrinuria. None could be detected in the blood. At first abdominal symptoms predominated, but after six weeks the paralysis developed and proved fatal in less than a week.

## Schweizer Archiv. f. Neurol. und Psychiatrie, Zurich

1919, **5**, No. 1

*The Fulminating Acute Psychoses. C. Ladame.—p. 3.
Psychopathology of Arson. G. Bychowski (Warsaw).—p. 29.
Symmetrical Formations in the Hemispheres of the Brain in Man and Animals. Z. Jatschewa.—p. 56.
*Chemical Differentiation of Brain Tissues. E. Landau.—p. 68.
Psychomotor Inhibition in a Case of Chorea. R. Mourgue.—p. 70.
Feeding the Insane through Tube in the Nose. W. Boven.—p. 99.
*Congenital Malformation of Spinal Cord. V. Demole.—p. 107.
*Electric Motor Excitability of Stomach Wall. Bircher.—p. 122.
*Retrogasserian Section of Trigeminal Nerve. C. A. Perret.—p. 141.
*Nerve Anastomosis for Facial Paralysis. Id.—p. 141.

**Acute Idiopathic or Fulminating Psychosis.**—Ladame reserves this name for acute insanity, with a rapidly fatal termination, which presents a characteristic clinical course and histopathologic changes *sui generis*, indicating acute inflammation of the mass of the brain. The article is based on eight cases, and emphasizes particularly the intense motor restlessness and the rapid desiccation of the tissues and early cachexia, with signs of grave general nutritional disturbances, profound mental confusion and death in one or two weeks. He suggests that by combating nutritional disturbance at the start we might ward off the disease. The lipoids, especially the lecithin, seem to be mainly involved, and treatment should aim to arrest the disassimilation, which would remedy also the derangement of the water balance. This pychosis is rare, forming only 0.25 per cent. of the 3,181 insane at the Bel Air asylum. (Ladame's untimely death has recently been reported.)

**Chemical Differentiation of Sections of the Brain.**—Landau calls attention to the fine contrast staining obtained by the chemical reaction when a specimen is stained in turn with iron salts of a higher and lower valency. It is especially instructive for sections of the brain. He places them for a few minutes up to an hour in a 1 or 2 per cent. solution of ferric chlorid and then rinses and transfers to potassium ferrocyanid. If the stain is too deep, it can be decolored with ammonia and stained over again.

**Congenital Luxation of the Atlas.**—Demole found at necropsy of a woman of 30 who had never displayed any nervous symptoms, motor or sensory, that there was forward subluxation of the skull on the spine, and the spinal cord was crushed out of shape. He ascribes this luxation to flexion of the neck at the third month of fetal existence, for reasons which he describes, and comments on the way in which the fetal spinal cord adapts itself to such injuries. The atlas had grown to the axis beneath.

**Electric Stimulation of Motor Functioning of the Stomach Wall.**—Bircher reports experimental and clinical experiences with various forms of electricity applied to the vagus innervation of the stomach wall and also directly to the wall. The details in seventy-five clinical cases are tabulated. They

testify to the importance of the neurotic factor in ulcer. Another practical point learned is that when the surgeon is unable to discover any anatomic basis for the disturbances, electric tests will reveal pathologic conditions when such exist. The sensation from the electricity was always referred to the electrode on the skin, the stomach itself not apparently feeling it. The excitability of the stomach was tested directly in the operative cases. The threshold grows lower from the cardia to the duodenum, and the excitability is greatest opposite to or just below an ulcer.

**Retrogasserian Resection of Trigeminal Nerve for Neuralgia.**—Perret reports the excellent outcome over three years to date in a very severe case of trigeminal neuralgia treated by severing the nerve back of the gasserian ganglion. This entails ascending degeneration of the centripetal fibers of its sensory root, and cures the neuralgia, while there is no danger of the neuroparalytic keratitis liable after gasserectomy, as the sympathetic fibers passing to the ophthalmic nerve are left intact. The case is illustrated.

**Grafting the Facial on the Hypoglossal Nerve Cures Facial Paralysis.**—Perret's illustrations show the fine result realized in a case of total facial paralysis in a young woman by total end-to-end anastomosis of the hypoglossal and facial nerves. Seven years later no asymmetry can be detected and there is scarcely a trace of lagophthalmos. One half of the tongue showed a tendency to atrophy at first, but it grew less apparent, and speech is perfect. The only suggestion of associated movements is a slight fibrillary tremor in certain regions in the cheek but she can control even this when she is not tired.

## Zeitschrift für Geburtshülfe und Gynäk., Stuttgart

July, 1919, **81**, No. 3

*Incipient Cancer or Atypical Epithelium? W. Benthin.—p. 593.
Adenomatous Sarcoma of Uterus. E. Froeschmann.—p. 623.
*Serologic Bile Test for Cancer. H. A. Dietrich.—p. 641.
*Operative Treatment of Adnexitis. K. Fraenkel.—p. 667.
The Patented Metal-Placenta Test for Pregnancy. O. Hürzeler.—p. 701.
Cylindromatous Sarcomas of Adnexa. E. Büchler.—p. 723.

**Incipient Cancer or Atypical Proliferation of Epithelium?**—Benthin gives photomicrographs of seven cases in some of which even microscopic examination of practically the whole uterus failed to decide for or against malignant disease

**Bile Serologic Test for Cancer.**—Dietrich has found that the natural hemolytic action of bile can be checked by addition of normal serum, but that serum from women with genital cancer allows the hemolysis to proceed unchecked. He proclaims this as a new biologic test for cancer, and reports that the findings with it were positive in 95 per cent. of forty-one cases of genital cancer in women, while they were positive only in 5 per cent. of the 121 noncancer women, and in these positive cases there were inflammatory processes. He explains the reaction as due to destruction of the albumins in the cancer serum, and declares that it is a useful guide not only in diagnosis but for the prognosis and in control of the results of operations and raying. He uses for the test a reliable element of bile, sodium taurocholate, in a 0.5 per cent. solution in physiologic sodium chlorid solution in a set of twelve tubes, ranging from 0.28 to 0.17 c.c. of the taurocholate and filled with the saline to 1 c.c. To each is added 0.01 c.c. serum, with a parallel set containing 0.01 serum from healthy subjects. After thorough mixing he adds to each, 1 c.c. of a 2.5 per cent. suspension of erythrocytes from umbilical-cord blood of newly born infants, caught in sodium citrate, 1:10, and thoroughly rinsed with saline, centrifuging three times. The reaction is estimated after thorough mixing and the tubes have been incubated at 37 C. for two hours. In the normal serum tubes there is no hemolysis, while in the cancer serum tubes hemolysis occurs. Dietrich reviews the literature on biologic tests of cancer, remarking that none have come near to standing the test of time except the miostagmin reaction and, possibly, Abderhalden's.

**Operative Recurring Inflammation of Internal Genitals.**—Fraenkel reviews the ultimate outcome in 1,305 cases of recurring inflammatory gynecologic disease at Frankfurt, all given medical treatment but ninety-seven. This operative group includes thirty-eight with radical abdominal total extirpation, and the final verdict is decidedly in favor of this from every point of view.

Aug. 2, 1919, **82**, No. 1, O. Küstner Festschrift

*Genital Prolapse. A. Martin.—p. 1.
*Significance of Pain in Pelvis. E. Opitz.—p. 9.
Gonococcus Vaginitis in Little Girls. R. Asch.—p. 28.
*Suprapubic Cesarean Section. P. Baumm.—p. 45.
*Ventrifixation of the Vagina. L. Fraenkel.—p. 59.
Delivery in Twilight Sleep. O. Schmidt.—p. 76.
*Chronic Ulcer of the Vulva. F. Heinsius.—p. 96.
*Origin and Treatment of Eclampsia. A. Dienst.—p. 102.
Reciprocal Relations Between Menstruation, Color of the Hair and Libido. A. Heyn.—p. 136.
Gynecologic Laparotomies; 491 Cases. W. Hannes.—p. 153.
Hematometra in Double Uterus. P. Becker.—p. 180.
Ileus from Postoperative Bands. P. Becker.—p. 190.
Fascia Grafts in Gynecologic Operations. G. Schubert.—p. 195.
*The Kielland Forceps. H. Küster.—p. 218.
Pregnancy and Tuberculosis. F. Heimann.—p. 237.

**Treatment of Genital Prolapse.**—Martin reviews the various operative methods that have been devised to cure genital prolapse, and remarks that even the best planned and best executed operations have some failures on their record. The general condition is an important factor. Infantile, thymus-lymphatic and constitutionally inferior tissues cannot always be relied on as a permanent support, even where the conditions at first seemed perfect.

**Pain in Gynecologic Disease.**—Opitz warns that even with unmistakable hysteria or neurasthenia there may be local causes for pains. Careful search for these causes will reduce more and more the number of cases of purely psychic pains, although never doing away with the latter entirely. Among the causes liable to be overlooked which may be responsible for pain are (1), clumps of ascarides entailing local spasm of the bowel; (2) enlargement of veins in the pelvis. The phlebectasia can sometimes be palpated. In several cases he was able to cure tormenting pains of long standing by ligation of the enlarged vein. Pain from this cause usually comes on when lying on the back. (3) Kinking or stenosis of a ureter or traction from bands is liable to cause pain; sometimes catheterizing the ureter may straighten it and put an end to the pain. (4) Pain in the sacral region may be due merely to fatigue of the dorsal muscles; this pain comes on in the course of the day and is relieved by repose. Or sacral pain may occur from stretching of the ligaments of the iliosacral joint, and the ligaments are found tender, especially in women with oblique pelvis. Massage, gymnastics and strengthening measures may help. (5) A further cause for pains may be found in retroperitoneal tuberculous glands. Kneise has cured several such cases by operation or tuberculin treatment. (6) One of the most frequent causes is abnormal movability of the cecum or sigmoid flexure, or their being bound down by bands. He has cured numbers of patients by correcting these conditions, especially the adhesions at the sigmoid flexure. These are particularly liable to cause disturbance during pregnancy and the puerperium. He has found these adhesions in 95 per cent. of the cases, but they do not always cause pain. In several cases he did not cut these bands at the laparotomy for other cause as they had never caused disturbance, but they began to make trouble later.

Opitz now has a record of large numbers of cases of pains in the left abdomen permanently cured for years by merely breaking up these adhesions at the sigmoid flexure or cecum; they are usually connected with—possibly extinct—disease in the genital organs, and the pains are generally mistakenly ascribed to displacement of the uterus. They persist after operative correction of the displacement, or are even aggravated by this as the traction is made greater. Ordinary rheumatism affecting the pelvis and sacrum may be responsible for the pains in some cases; the tonsils should be examined. He emphasizes further the importance of distinguishing between the stimulus that causes the pain and the brain that perceives it. By psychotherapeutic suggestion and general strengthening measures we may be able to reduce the acquired oversensitiveness of the central nervous system, and thus cure from another angle.

**Suprapubic Cesarean Section.**—Baumm has now a record of 223 cases of contracted pelvis in which delivery was by sectio suprapubica. The mortality was 2 per cent. in the clean cases and 13 per cent. in the febrile cases. In two cases the operation was repeated at a later pregnancy and in another case three times. The prospects for the children are the same as with the classic technic. In over 59 per cent. of the cases, the operation was extraperitoneal. The great advantage is that the whole operation can be concluded at once and the uterus sutured. This suprapubic technic should not be considered for febrile cases with fetid amniotic fluid, or with an interval of twenty-four hours since the escape of the fluid.

**Ventrifixation of the Vagina.**—Fraenkel reports two cases, and cites others from the records, of ventrifixation of the vagina in treatment of recurring prolapse after hysterectomy or with primary prolapse, leaving the sound uterus intact, or removing the diseased uterus. The operation is simple and easy and all are surprised at the effectual way in which it counteracts the tendency to prolapse, while it is not liable to interfere with pregnancy later.

**Chronic Ulcer of the Vulva.**—Heinsius has had four cases of extensive inoperable destructive ulcerative processes starting in the vulva, with multiple fistulas. Great relief was obtained from fixation to the abdominal wall of the sagging genital organs and bladder.

**The Eclampsia Question.**—Dienst announces that his experimental and clinical research has settled once for all that the blood in eclampsia contains an abnormally large proportion of fibrin-ferment. This excess of fibrin-ferment explains the edema of pregnancy, pregnancy kidney, and eclampsia as the various degrees of intoxication with fibrin-ferment, as he describes in detail. In many hundreds of blood specimens the findings were constantly concordant in the deficient production of antithrombin in the eclampsia and pregnancy cases, and the consequent overloading of the system with thrombin. He announces the constant finding of fibrin-ferment in the amniotic fluid as early as the second month in normal pregnant women, but in these normal women no free preformed fibrin-ferment was ever found in the blood plasma. For this and other reasons he assumes that the maternal placenta is the source of production of the fibrin-ferment. Treatment should aim to relieve the spasm of the blood vessels caused by the excess of fibrin-ferment. Small repeated doses of narcotics, as in Stroganoff's prophylactic treatment, accomplish this, while venesection lowers the blood pressure and starts up the circulation and the production of antithrombin in the liver. Leech extract may also aid in combating eclampsia, and rupture of the membranes may reduce the pressure so that the liver may have better circulation, and aid in combating the toxic action. As the placenta keeps producing more fibrin-ferment, it should be got rid of quickly. Nolf states that acid drinks promote production of antithrombin, and hence the pregnant should be encouraged to drink freely of lemonade, etc. The pregnant naturally crave acid drinks and foods. A fat-poor and albumin-poor diet tends to keep down production of fibrin-ferment. This has been evidenced in the lesser number of cases of eclampsia during the last few years on the restricted war diet. In conclusion, Dienst mentions the recovery from impending eclampsia in a case of the severest form of pregnancy kidney in which he gave lemonade in large amounts and two subcutaneous injections of antithrombin in the form of blood from a healthy pregnant woman near term.

**The Kielland Forceps.**—Küster reviews some recent publications on the Kielland forceps and his own experiences with it, his conclusion being that these forceps and the method of their introduction form the most important progress that has been realized in instrumental obstetrics for many years.

## Norsk Magazin for Lægevidenskaben, Christiania

December, 1919, **80**, No. 12

*Cancer of the Rectum. P. Bull.—p. 1233.
Clinical Study of Influenza Pneumonia. R. Hatlehol.—p. 1310.
*Isolated Disease of Scaphoid Bone. E. W. Koritzinsky.—p. 1332.

**Cancer of the Rectum.**—Bull tabulates the details and outcome in 4 cases in which merely the malignant tumor was excised, 18 with amputation of the rectum, 2 with amputation of the sigmoid flexure, 13 with resection of the rectum, and 6 with resection of both rectum and sigmoid flexure. His historical sketch of the subject and his analysis of 71 personal cases of cancer of the rectum have convinced him that an exploratory laparotomy is practically indispensable, and that local anesthesia, especially sacral or parasacral anesthesia, offers many advantages and averts the danger of collapse and of complications on the part of the lungs. The tragic feature in treating cancer of the rectum is that the attempt to leave the anus continent often compromises the success of the intervention. He warns further that the only way to avoid gangrene of the intestine stump when it is drawn down is to ligate the superior hemorrhoidal artery above the mouth of the branch from the sigmoid artery. No action from roentgen or radium rays was apparent in the few cases rayed. Of the 39 who survived the radical operation, 17 lived for an average of eight and a half years, including six with survivals of from twelve to twenty years; 2 died from intercurrent disease after one and 2 after seven years and 16 of the others succumbed to metastasis or recurrence within five years. Two succumbed to peritonitis following an attempt to close the artificial anus. The permanent cures thus formed 30.8 per cent. of the 39 who survived the operation or 27.3 per cent. of the 44 operative cases.

**Isolated Disease of Scaphoid Bone of Foot.**—Koritzinsky reports a case of Köhler's disease, and compares it with the forty-nine cases on record. The prognosis is favorable; all the children outgrew the disease in from a year and a half to two years and a half, but recovery is materially hastened and suffering avoided by wearing a firm immobilizing bandage with a flatfoot insole. No operation should be considered. Sometimes the lesion is accompanied by a similar one in the patella, and it may be bilateral. The symptoms are pain and tenderness at this point, and the child steps on the outer edge of the foot. The lesion has usually a traumatic factor, but it may be merely a defect in development from some nutritional disturbance, like Kienböck's traumatic malacia of the os lunatum and Calve-Perthes' similar hip joint anomaly.

## Ugeskrift for Læger, Copenhagen

Dec. 4, 1919, **81**, No. 49

*Functional Tests of the Heart. K. Secher.—p. 1891.
Grave Jaundice Early in Pregnancy. E. Hauch.—p. 1899.
Lethargic Encephalitis. K. Bierring.—p. 1899; Idem, J. C. Møller.—p. 1903.

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Treatment of Diabetes in General Practice. H. C. Hagedorn.—p. 1939.

**Functional Tests of the Heart.**—Secher refers to tests that are simple enough for office and house practice. He commends in particular the Katzenstein, Rehfisch and Schrumpf methods. Schrumpf states that with a normal heart the pulse returns to its former beat in four minutes after slight exercise, such as bending the knees ten times. Katzenstein's test is the difference in pulse and blood pressure before and two minutes after digital compression of the femoral artery for two or two and a half minutes. A rise in blood pressure and slower pulse rate indicate normal condition. An abnormally high rise in blood pressure is found with arteriosclerosis and hypertrophy of the heart. No rise in blood pressure indicates weakness of the heart; if the pulse is not modified, the weakness is slight, but if the pulse grows faster the heart must be regarded as decidedly insufficient. A drop in blood pressure with accelerated pulse indicates severe insufficiency; it is proportional to the degree of each. This test can be applied to the reclining patient, and Secher's experience with it in fifty cases demonstrated its approximate reliability. In some cases it excluded organic heart disease, and the course later confirmed its findings. The Rehfisch test is by auscultation before and after bending the knees ten times; Bock's differential stethoscope eliminates the personal equation in estimating the findings. Bull expresses surprise that this stethoscope is not used more.